VOL. LXXXII PART ONE

JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

JANUARY 1957

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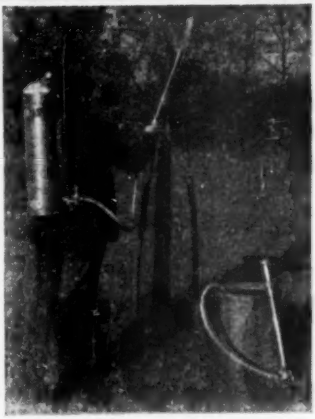

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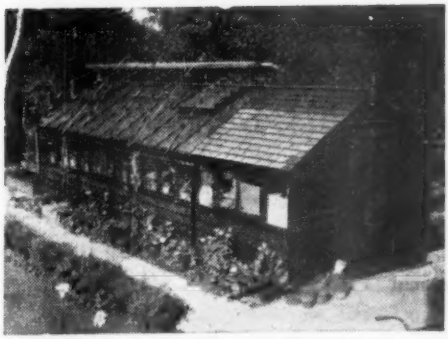

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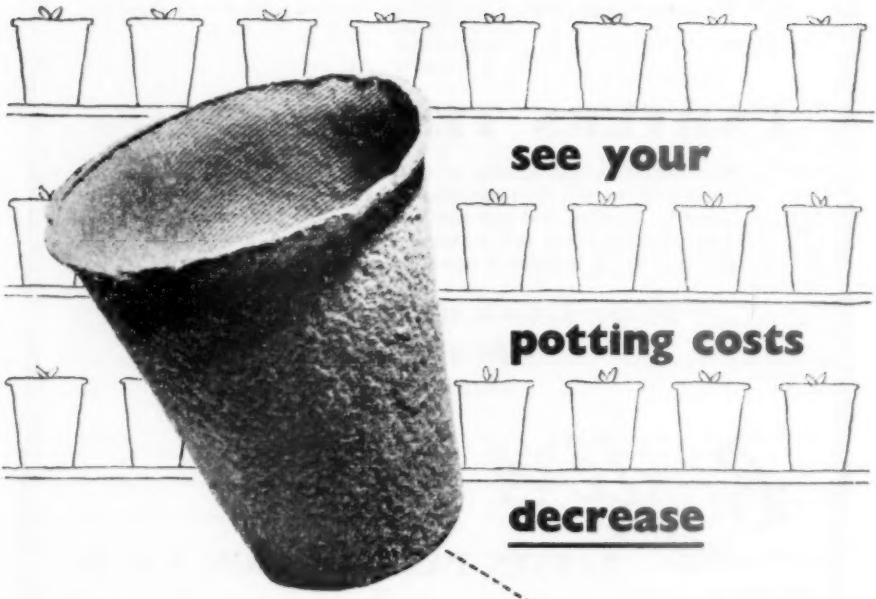

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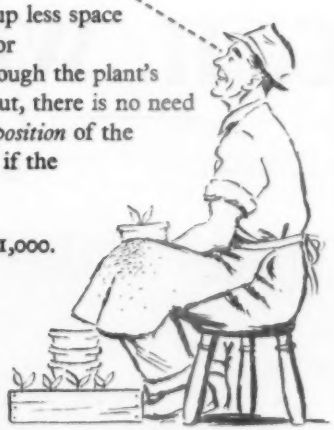

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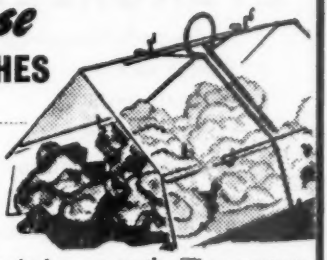

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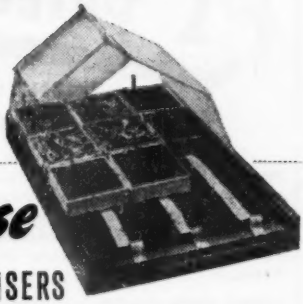

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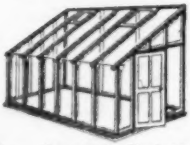

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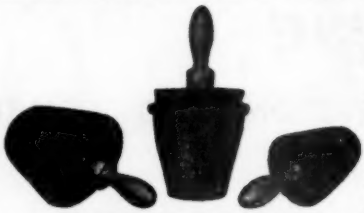

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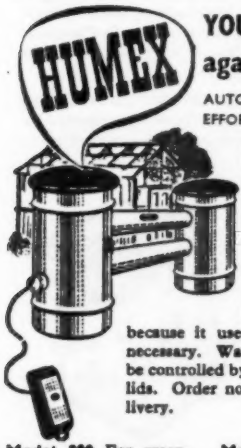

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JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

VOL. LXXXII PART ONE

January 1957

THE SECRETARY'S PAGE

ANNOUNCEMENTS—JANUARY AND FEBRUARY

Shows—The Society's Fortnightly Shows are held in the Society's New Hall in Greycoat Street and/or the Old Hall in Vincent Square, Westminster.

TUESDAY, January 22 12 NOON to 6 P.M. WEDNESDAY, January 23 10 A.M. to 5 P.M.	Fortnightly Flower Show, in the New Hall.
TUESDAY, February 5 12 NOON to 6 P.M. WEDNESDAY, February 6 10 A.M. to 5 P.M.	Fortnightly Flower Show, in the New Hall.
TUESDAY, February 19 12 NOON to 6 P.M. WEDNESDAY, February 20 10 A.M. to 5 P.M.	Fortnightly Flower Show, in the New Hall. Annual General Meeting at 3 P.M. on February 19, in the Old Hall.

Lectures

TUESDAY, January 22, at 3 P.M. "The Work of the John Innes Horticultural Institution", by MR. J. NEWELL, N.D.H.

TUESDAY, February 5, at 3 P.M. "Tulip Species", by MR. J. S. L. GILMOUR, M.A., F.L.S., V.M.H.

Demonstration at Wisley—On February 27 there will be a demonstration at Wisley on the pruning of roses, commencing at 2 P.M. It will be repeated at the same time on February 28.

Annual General Meeting—The Annual General Meeting to receive the Report of the Council for 1956 and a statement of accounts

for that year will be held on Tuesday, February 19, 1957, at 3 P.M. The Meeting will be held in the Old Hall, as in 1956, in order that there may be ample room for all who wish to be present. It is hoped that as many Fellows as possible will attend.

Committee Meetings on January 10, 1957—If necessary the Fruit and Vegetable Committee and the Orchid Committee will meet on Thursday, January 10, 1957, to consider novelties. Anyone wishing to submit a novelty to either of these Committees on January 10 must inform the Secretary on or before January 2, 1957, so that the necessary arrangements may be made.

The Society's Examinations in 1957—Candidates wishing to enter for the Society's Examinations in Horticulture to be held in 1957 are reminded that the closing dates for entry forms are as follows: General Examination in Horticulture, and General Examination in Horticulture for Juniors—Monday, January 7, 1957; National Diploma in Horticulture, Intermediate and Final Examinations, and N.D.H. Honours—Friday, February 1, 1957; Teacher's Diploma in School Gardening, Intermediate and Final Examinations—Friday, February 1, 1957.

The Botanical Magazine—The Society has for disposal a number of bound copies of the earlier volumes of the *Botanical Magazine* and also several runs, together with a quantity of unbound coloured and uncoloured plates and texts of the later volumes from 71 to 164. The uncoloured plates, stamped on the back "Issued uncoloured" are offered for sale in lots of 1,000 miscellaneous different plates, with their corresponding texts, at £15. The charge for specified uncoloured plates with text will be 2*s*. each. Anyone who may wish to purchase any of this stock should apply to the Secretary for a list of what is available. If particular volumes or plates are required, details should be given, and if in the absence of coloured plates uncoloured ones would be acceptable, that should be stated.

NOTES FROM WISLEY

J. B. Paton

IN January most Fellows are more concerned with ordering their seeds for the year than they are with visiting the Gardens. Thus it may be appropriate to note some of the annuals and the biennials which have been grown at Wisley over the past few years. Each year there is in the Annual Border a display of annuals which, though the selection of strains varies from year to year, still depends on a certain number of well-known plants. In addition there are on the Floral Trial Grounds a continuous succession of trials of annuals and biennials.

The Annual Border is divided into two sections, the smaller one is planted with a collection of half-hardy plants previously raised under

glass and the larger one with a wide range of hardy annuals sown *in situ*. At Wisley it is found helpful to sow the annuals in shallow drills 4–8 inches apart; the spacing varies according to the ultimate size of the plant. This method of sowing allows an onion hoe to be used between the rows whereas if the seed was broadcast it would be necessary to hand-weed the whole area. The seedlings are thinned as required. On the Floral Trial Grounds, each strain of hardy annual is represented by ten 6-foot-long rows and each strain of half-hardy annual by sixty plants which have been raised under glass in boxes or pots. This number of plants allows a good judgment to be made of the trueness of the strain under trial. The spacing of the plants on trials is usually wider than that given in the garden; this is to allow each plant to grow to its full capabilities without hindrance.

In the Annual Border, strains of *Calendula*, the marigold, seemed to be comparatively unaffected by the continual wet weather of 1956 and good garden varieties include 'Radio' with quilled, orange petals, the fully double golden-yellow 'Golden King' and 'Sunshine' sometimes known as 'Chrysantha' due to the chrysanthemum-like form of the canary-yellow florets.

During 1957 it is planned to have a trial of calendulas and also the African and French marigolds which are derived from *Tagetes erecta* and *T. patula*. *Tagetes* usually are treated as half-hardy annuals when grown in the Annual Border, but for the purpose of the trial they are to be sown in the open ground.

The French marigolds 'Eldorado', 'Sunkist' and 'Naughty Marietta' have all given good results in the Wisley border. The first two have double flowers while the last has single golden-yellow, maroon blotched blooms. The African marigolds are taller-growing plants useful for borders and also for providing cut flowers. In the last trial held in 1948 we had good strains of 'Guinea Gold' and 'Golden Glory'.

The hardy annual *Linaria* deserves wider cultivation especially the forms of the Moroccan species *maroccana*. In the trial held in 1953 the best mixture was that under the name 'Fairy Bouquet'. The plants are up to 16 inches high and the small snapdragon-like flowers may be coloured white, cream, yellow or various shades of pink, red, mauve and violet. Self-coloured strains include the yellow 'Fairy Bridesmaid', the red 'Ruby King' and the violet, white eyed 'Diadem'. This plant is commonly known as the annual toad flax and comes into flower in the second week of June from an April sowing and a second crop of flowers may be obtained in late summer if the stems are cut down before the flowers have run to seed. Also derived from a Moroccan plant are the forms of *Chrysanthemum carinatum* sometimes listed as *tricolor*. In the trial of annual chrysanthemums held in 1954 we noted a good strain from this species called 'Double Fringed Improved'. It had semi-double or double flowers, 3½ inches diameter, and there was a good mixture of colours with some petals having a lighter coloured fringe. Another good mixed coloured strain was 'Chamaelon' while the pure white

'Northern Star' had a yellow zone and a dark brown centre. All these chrysanthemums grew to a height of between 2½ and 3 feet and so can provide cut flowers if desired. For the dwarf plants more suitable for the front of the border we turn to the forms of *C. coronarium*. Two useful strains were 'Tom Thumb Golden Gem' and 'Tom Thumb Primrose Gem'; both were covered with fully double flowers, the former in a rich shade of lemon-yellow and the latter in a pale shade of yellow which on the Horticultural Colour Chart is called Chartreuse Green. 'Eastern Star' and 'Eldorado', varieties of *C. segetum*, the native corn marigold, had single flowers in which the ray florets were yellow and the disc florets dark brown. The former was slightly larger in all its parts.

In 1955 the trial of varieties of the fibrous-rooted *Begonia semperflorens* attracted considerable attention. These plants require a long season of growth and so the very fine seed should be sown in early February. The standard varieties include 'Carmen', 'Indian Maid' and 'Luminosa' in the *gracilis* section and 'Rose Pearl' and 'Lucifer' in the taller-growing section. A new mixture of the *gracilis* type grown at Wisley in 1956 under the name 'Organdy' had a wide range of colours and should prove popular for mixed bedding.

The Mexican *Cosmos* which is closely related to the dahlia has two principal types. The tall-growing Sensation group derived from *C. bipinnatus* and the dwarfer Klondyke group derived from *C. sulphureus*. A good strain of the former was called 'Gloria' and had cyclamen purple flowers 4½ inches in diameter on plants 5 feet high. Of the Klondyke group 'Orange Flare' was the most attractive. It had flowers 2½ inches across carried on plants 2½ feet high and is best treated as a half-hardy annual.

Larkspurs are old favourites which need no introduction to keen gardeners. At Wisley the trials usually are sown in September and overwintered in the open ground, but in the Annual Border sowing is deferred until the spring. For early flowering there is a choice of either dwarf or tall varieties from the hyacinth flowered section. A good variety of the taller ones grown in the trial was called 'Pinkie'. The main bulk of the flowers come fourteen days later in the varieties which can be classed in the stock flowered and giant imperial sections. In these sections special note may be made of 'Rosy Scarlet Improved', the salmon 'Miss California' and 'Carmine King'.

In 1956 we had a trial of *Salvia splendens* which bloomed profusely from August until mid October. It consisted mainly of strains of 'Blaze of Fire' and 'St. John's Fire'. The latter makes a slightly smaller and more compact plant than the former. In the trial of godetias two interesting novelties were 'Vivid' with brilliant cherry-crimson petals blotched at the base with white and 'Salmon Princess' of dwarf compact habit with frilled begonia-rose petals.

As well as placing orders for annuals it should not be forgotten that biennials are most valuable as many of them flower before the annuals

and so fill what in many gardens is an awkward gap in early and mid June. Aquilegias were on trial recently at Wisley and a good mixture grown then was called 'Langdon's Rainbow'. In the self-coloured strains 'Blue King', 'Snow Queen' and 'Crimson Star' all were attractive. In 1954 the trial of foxgloves was remarkable in that First Class Certificates were awarded to 'Excelsior Cream' and 'Excelsior Hybrids'. Both these varieties had the flowers placed symmetrically all round the stem and held very nearly horizontal. Other strains noted were ' Marshall's White', 'Monstrosa Mixed' and 'Giant Spotted'. The last two had a mixture of colours which included white, rose-pink and shades of purple all spotted with dark purple. The trial of Canterbury bells in 1956 showed the usual run of cup-and-saucer and double varieties and also a newer mixture of dwarf compact habit called 'Dwarf Double Mixed'. Trials of polyanthuses and wallflowers have been sown in 1956 for judging in 1957. Fellows visiting the Gardens in April are particularly advised to inspect the trial of polyanthus as there are some fifty-eight strains, raised from seed, which have been sent from America and Australasia in addition to many of European origin.

PLANTS OF INTEREST AT WISLEY DURING JANUARY

LABORATORY WALLS

Chimonanthus praecox luteus
Iris unguicularis
Viburnum foetens

GLASSHOUSES

Acacia species
Beloperone guttata
Camellia japonica varieties
Cestrum purpureum
Chorizema ilicifolium
Cypripedium varieties
Dendrobium species
Epidendrum species
Erica canaliculata
» *veitchii*
Hakea acicularis
Hibbertia volubilis
Jacobinia pauciflora
Jasminum polyanthum
Odontoglossum crispum
Plumbago rosea
Reinwardtia trigyna
Rhododendron ciliicalyx
Zantedeschia aethiopica

SEVEN ACRES

Cornus sanguinea
» *stolonifera*
Elaeagnus pungens aureo-variegata
Erica species and varieties
Hamamelis japonica 'Superba'
Lonicera fragrantissima
Salix alba chermesina
» » *tristis*

WILD GARDEN

Cyclamen neapolitanum
Daphne mezereum
Galanthus species
Garrya elliptica
Hamamelis mollis
Helleborus niger
» *orientalis*

ROCK GARDEN

Coronilla glauca
Crocus susianus
» *tomasinianus*
Galanthus species
Helleborus foetidus
Odontospermum maritimum

ROCK GARDEN (*cont.*)
Pernettya varieties
Pinus sylvestris aurea
Polygala chamaebuxus
Primula megaseaefolia
Ranunculus calandrinioides
Saxifraga varieties
Scilla tubergeniana

BATTLESTON HILL
Camellia 'Nobilissima'
Cotoneaster × 'Cornubia'

BATTLESTON HILL (*cont.*)
Hamamelis 'Coombe Wood Form'
Hamamelis mollis
Mahonia bealei
» *japonica*
» *lomariifolia*
Primula edgeworthii
» *scapigera*
Rhododendron mucronulatum
Skimmia japonica
Sycopsis sinensis

THE GARDENS OF THE NATIONAL TRUST

The Hon. D. Bowes-Lyon, V.M.H.

(*An address delivered at the Annual General Meeting of the National Trust in the Guildhall, London, on November* 16, 1956)

A PROBLEM, which in the last decade or so, has faced the National Trust is the importance of preserving some of the most important gardens in the country. It is true that the Trust already owns a number of important and historic gardens because they happen to be an integral part of an historic house already in its possession, but there are a large number of gardens of widely different characteristics which exemplify the prevailing taste and fashion in gardens of the last four centuries which are in danger of being lost.

It may be an over-simplification to say that the gardens of the country can broadly be placed in two categories. There are those classic gardens which form part of the basic design of a great house and were laid out by architects as essential adjuncts to the house itself. These types of gardens, of which Hampton Court is a good example, are essentially formal gardens and you might even call them period pieces. Then there is the second type of British garden which, lacking any particular architectural features, has been developed by blending plants and trees into the surrounding landscape. We are blessed in this island with a climate where plants and trees from most parts of the world—from New Zealand and North America, Tibet and Chile, and Japan and North Africa—can be seen growing in a few square yards and in good health in some of our gardens. I do not believe that there is another country where this can be successfully done. Further, these gardens have been laid out and planted often in great taste and care and are, I suggest, in some cases of national interest, and probably of national importance.

Accordingly, about seven years ago The National Trust and The Royal Horticultural Society set up a Joint Gardens Committee, and

appointed as its first Chairman that outstanding gardener, the late LORD ABERCONWAY. This Committee has in these seven years received many offers of gardens throughout the country. It has had to refuse a great many as it must keep a very high standard, and gardens can only be accepted provided their merits are very considerable. This Committee only passes judgment on the garden. It has no concern at all with the house, which probably adjoins it. That is the business of another Committee of the National Trust. So, although the garden may surround the house, we only take a fleeting glimpse at the house itself and meticulously avoid giving any opinion on it.

Since the scheme started in 1949, the National Trust has accepted or acquired the following gardens:

Bodnant, LORD ABERCONWAY'S great garden in North Wales.
Hidcote in Gloucestershire.
Nymans and Sheffield Park in Sussex.
Rowallane, that remarkable garden of the late MR. ARMYTAGE MOORE in Northern Ireland.
Mount Stewart, also in Northern Ireland, and
Winkworth Arboretum in Surrey.

Although some of these have only quite recently come under our management, well over a quarter of a million people have already been to visit them.

At this point I would like to mention that the Gardens Scheme owes a big debt of gratitude to The Queen's Institute of District Nursing, who, since their responsibilities were curtailed by the advent of the National Health Service Act, have given us a proportion of their takings from the opening of gardens which they have continued to organize. This proportion has averaged £1,900 a year since we started and, as I said, we are exceedingly grateful to them.

Although we are, I think, unquestionably a nation of gardeners, it is curious that we did not start gardening until late in the fifteenth century. The Continent was certainly in front of us in this respect and, particularly, Italy, which by that time had many important and established gardens, but in the fifteenth century here the only gardening that one can trace was confined to monasteries, the monks no doubt tilling them for purely economic purposes.

But towards the end of that century and the beginning of the sixteenth century the building of manor houses began, and with these houses was generally added a small garden of a very simple character which was composed of fruit trees and also largely of herbs, essential for purposes of medicine and equally essential for disguising the English food which was probably as unimaginative then as it often is today.

As the sixteenth century moved on there was a marked change of social life in England; conditions became more settled and new people began to develop their homes; it was during this period that, for the first time, garden designing started. Italian craftsmen were brought to

England by HENRY VIII to design the garden at Hampton Court, and they brought with them the idea of formal and architectural gardens. Similarly, large country houses began to grow up—a very good example is Montacute—and with the appearance of the architect a garden worthy of the building became a necessity.

The early seventeenth century, with its unsettled time of civil wars and the Cromwell regime, put a stop to garden development, but with the Restoration a flood of new knowledge on gardening came into the country largely through French and Dutch influence. France at that time, greatly dominated by LE NÔTRE, was laying out vast gardens such as Versailles, and his influence extended to this country and can be seen in such worthy examples as Bramham, in Yorkshire, and Wrest Park in Bedfordshire, but in many other gardens the French style of pure architectural gardening was widely adopted.

But I would suggest that the greatest influence LE NÔTRE had on us was to make the Englishman aware of his landscape. Before he came on the scene the renaissance houses were set in enclosed parks, but no attempt was made to make them a thing of beauty and they were not considered part of the amenities, but from that time no park seemed large enough to be brought into relationship with the house.

The other style which achieved great popularity in that century was Dutch, which, of course, followed the accession of WILLIAM OF ORANGE, but, unlike the expansive French ideas, these were essentially intimate, and good examples can still be seen at Chastleton and Blickling in Norfolk. One of the most popular introductions from Holland was topiary, which became quite a craze. Indeed, in a contemporary journal of that time the following advertisement was printed:

"Catalogue of trees to be disposed of. Adam & Eve in Yew; Eve and the Serpent very flourishing; St. George in Box, his arm scarce long enough but will be in a fit state to stick the dragon by next April; A pair of Giants stunted, to be sold cheap, etc. . . ."

The eighteenth century brought a reaction against strict formality and led to landscape and picturesque movement, and this is probably one of the most significant contributions England has made to garden design. Climate played an important part in encouraging the growth of tall trees and the cultivation of wide stretches of green turf. We owe a great debt to this movement, even today, for vast schemes of tree planting were undertaken, which account for much of the beauty of the English countryside today; for example, Stourhead, Stowe and Blenheim. It is sad that many of these ambitious tree plantings are now past their prime, and unless new ones are planted to take the place of those which have gone, the face of England will change for the worse. It is equally sad that under present-day conditions people are either unable or unwilling to plant avenues and parks on a grand scale such as they did at that time. This, however, should on no account apply to the National Trust, which must plant for posterity and, indeed, we are at this moment planting new avenues at Stourhead and Polesden Lacey.

With the advent of the nineteenth century, the taste in gardening as in houses deteriorated. No longer was there KENT or REPTON, or even "CAPABILITY" BROWN to influence garden design, but much more attention began to be given to plants themselves, and especially ornamental plants, though in the first three decades the growing of fruits under glass was very much the fashion. Had they lived 150 years ago, those people who now compete with each other over rhododendrons or orchids or roses would have been boasting about the size of their peaches, grapes, and particularly pineapples, grown under glass, for it was essentially a period of hot-houses and conservatories.

As this century wore on and communications became better we sent out many plant-hunting expeditions to the four corners of the world; many of them were sponsored by The Royal Horticultural Society and they sent back seeds and plants in great variety and quantity. This led to a tremendous interest in the growing of plants, again under glass, of a tropical and temperate nature. The quantity and quality of these new plants soon led to the reintroduction of flower gardens, many of which had been swept away by KENT and BROWN, and the overflowing greenhouses during the summer led to the practice of bedding out tender plants, a practice which was at its peak at the end of last century and, indeed, is still maintained in a few public gardens today.

With the advent of the present century the Edwardians staged a great revival in outdoor gardening. The vast introduction of new plants of the previous century, many of which had already proved quite hardy, and collectors sending ever more new ones led to the creation of magnificent gardens such as Bodnant, Nymans, Exbury, Muncaster and Caerhays, and a host of others—many of them in their prime today.

I think it would be true to say that today the English gardener is interested more in horticulture than he is in the formal and traditional garden lay-out. This is not unnatural because the choice of garden plants from which he can draw is so infinitely greater than anything his forebears could enjoy.

What of the future? I don't think that gardens will ever again be planned in the grand manner. No longer are people able to plan for succeeding generations, and more than ever gardens will be designed to be kept up with as little labour as possible. Under the garden scheme the Trust hopes to preserve many important gardens, or at least to preserve a cross-section of the best of the gardens of the last four centuries, but the scheme has one drawback. A garden if it is to be any good, or an interesting garden, must have a resident boss. No garden, I submit, can be successfully planned and managed from a distance, so the Trust must find tenants who are gardeners and are able to live in these gardens. At the risk of being personal, I give you two examples: you have that great garden of Bodnant which improves every year that goes by, and that is because LORD ABERCONWAY lives there and directs its operation; on the other hand, you have another great garden of the National Trust, Hidcote, where unfortunately, owing to ill health, its

former owner, MR. JOHNSTON, has been absent for twenty years, and I must admit, in fact I think we would all admit, that this garden has deteriorated lately for lack of a resident boss. We hope, however, to let the house at Hidcote shortly, and I hope the tenant will be a knowledgeable gardener.

In the past our policy has been to maintain and preserve the existing features in the gardens which have come into our care. We have not seriously considered, or attempted to increase, the scope and size of the collections of plants which they contain. Undoubtedly, there is opportunity for expansion in some of the properties entrusted to us. How might this be achieved with credit to the National Trust, and with benefit to gardening and the progress of horticulture? It has occurred to me that the National Trust gardens, scattered throughout the country with a wide variety of climatic and soil conditions, could contribute to the building up of a national collection of trees, shrubs and other plants. Our financial resources are, of course, severely limited and, at least at present, we are quite unable to extend our horticultural responsibilities. Yet there may be ways and means of using our great resources by offering facilities to a national botanical institution. We know that the climatic and soil conditions at Kew are unsuitable for many kinds of trees and shrubs, and that it has been necessary, in the case of conifers, to have a place in the country to grow these particular trees. Thus, at Bedgebury, in Kent, there is a satellite arboretum controlled jointly by the Royal Botanic Gardens, Kew, and the Forestry Commission. A somewhat similar arrangement covers the wonderful garden at Ben More, Argyll, which is managed from the Royal Botanic Garden, Edinburgh. Then there is Westonbirt, in Gloucester, which possesses probably the finest collection of trees and shrubs in Britain. It has recently been purchased by the Forestry Commission, but the preservation and care of this unique collection has been made the responsibility of a knowledgeable advisory committee. So there is nothing really novel or startling in the suggestion that we might seek to link our activities, for example, with Kew. Some of our existing gardens, and others that may be offered to us, could then much more profitably be fitted into the national gardening and horticultural framework.

That gardens play an important part in the life of the community, few will dispute. As long ago as 1625, BACON wrote that "a garden is the greatest refreshment of the spirits of man". And if that were true in those leisurely days, as no doubt it was, how much more must it be so today when the pace of life is so much faster, and when such a large proportion of adults spend most of their lives in industry or offices.

With improved transport, many who were born and bred in cities now live in suburbs or in the country itself. A large proportion of those people have never had a garden before, but they take to a garden as a duck does to water, and most probably share BACON's opinion.

We can confidently say that the interest in gardens in this country

is greater today than it has ever been. It may be the desire to grow things and watch them mature, or it may be a form of escapism from this present unsettled world. I do not know, but at least let us remember that never before has the possession of a garden been so general or the desire to garden, or to visit gardens, been so widespread. It is on the basis of the support of the many garden lovers of England that we in the National Trust look ahead with optimism about the gardens for which we are responsible.

DECORATIVE AUTUMN FRUITS AND BERRIES

Lanning Roper

In many gardens decorative fruits and berries are happy accidents rather than part of a preconceived plan. Far more use should be made of trees and shrubs which produce them, for in the average garden they are an ideal way to introduce colour and interest from September onwards, not only when planted by themselves but when used in conjunction with other flowers and foliage. For example, in Shropshire I saw a house recently where the simple white Georgian façade had been planted with neatly trimmed pyracantha on either side of the long narrow windows, under which there were boxes of geraniums of almost the identical colour as the scarlet berries of the pyracantha. This vivid colour was a perfect foil to the well kept lawns and the masses of clipped yew and box. Equally effective, and even more colourful, was a long wall against which there were well fruited pyracanthas and *Cotoneaster microphyllus*, gleaming with berries, and with here and there the feathery heads of *Clematis tangutica*, like witches' wigs. In front was a wide border of Michaelmas daisies in exciting shades of blue, mauve, purple, red and pink. Likewise there are remarkable effects to be achieved by combining chrysanthemums against a similar background.

In a London garden a large-flowered white clematis clambers through a pyracantha, the white effective against the dark green and clusters of brilliant berries. *Pernettya mucronata* and its many hybrids in subtle shades of off-white, pink, mauve, magenta and purple are lovely when planted with heathers of similar colouring and are as right in their association as the bilberry (Fig. 2). The soft purple and amethyst foliage of *Rosa rubrifolia*, covered with glossy dark red hips, is an asset in any border, be it shrub or herbaceous, especially if planted in conjunction with the shrubby silver-leaved senecios, the rich claret-purple forms of *Rhus cotinus* or the grey and silver and blue of *Caryopteris* or *Perovskia*. But enough of uses of fruits and berries.

Everyone knows the beauty of edible fruits—the dusky bloom of grapes, the polished brilliance of apples and the subtle blendings of

rose and apricot and yellow in the downy surface of ripe peaches. The excellent exhibit of fruit staged by Wisley at the recent Autumn Show, at Olympia, was certainly a proof. The fruits of hundreds of other trees and shrubs are equally beautiful, although many of them in a less spectacular way. Let us consider magnolias, for example. Immediately the picture of lovely fragrant pink or white flowers is called to mind. But it might also be a picture of the large brownish green cone-like fruit of *Magnolia grandiflora*, beautifully set-off in a ruff of glistening dark green leaves, and a little like the unopened flower of a protea in shape and markings. In time this splits to reveal the brilliant red seeds. Or it might be the curiously irregular and twisted fruits of *M. veitchii*, which are an unusual shade of pinkish-magenta. These also split in dozens of places to reveal brilliant orange-red seeds. It is an extraordinary colour combination, reminiscent of a cardinal's robes. Both of these trees do not always set seed in this country save in warm sunny seasons; this is particularly true of *M. grandiflora*, which often does not flower until August and September, while in its native home in the United States, or in Italy and on the Riviera, it flowers in June or early July. This early flowering period provides a long hot summer in which the fruits can ripen.

The fruits of *Poncirus trifoliata* (*Aegle*) are slightly reminiscent of those of the flowering quince. The latter, however, are larger and have the true quince flavour, while the former are a little like very small velvety grapefruit of a clear golden yellow. An amusing contrast in shape to these is offered by the long tapering pods of *Wisteria sinensis*, looking as if they were made of the finest silvery green suède and the strange bean-like pods of *Catalpa bignonioides*, often as much as 12 to 15 inches long and not much thicker than a pencil, which explain its common name of Indian Bean. Then there is the handsome fruit of *Paulownia*, which again only ripens here in very hot summers. The tapering, rich brown, nut-like fruits are borne in velvety calyx cups which look like little flowers when the nuts have dropped. In the exhibit at the Royal Horticultural Show of fruits from the Villa Taranto in Italy, in the autumn of 1955, there were branches of both *Paulownia fortunei* and of the larger fruited *P. fargesii*, which ripen in the hot Italian sun. These are effective in decorative arrangements because of their bold form. When ripe the pods split and look for all the world like the gaping mouths of baby birds, the points representing the open beaks (Fig. 10).

Another lovely fruit in the same exhibit was *Diospyros kaki*, the persimmon (Fig. 12). Its apricot-orange fleshy fruits are slightly reminiscent of tomatoes in shape and again the symmetrical calyx is attractive, consisting of four large sepals, broad at the base and tapering to points. This fruit is edible and its slightly gelatinous flesh is excellent when thoroughly ripe. Eaten too soon it has a puckering effect which is far from pleasant. It grows well in the milder parts of the British Isles. *Punica granatum nana*, also from Taranto, is a true miniature pomegranate, with its upright crown and glossy skin in shades of rose and

coral. I never see it without thinking of early paintings as this fruit was the delight of the skilful Persian miniaturists.

Idesia polycarpa, with bunches of small grape-like berries which turn a rich brick red in long hot summers, is particularly attractive and the specimens from Italy were very fine, lasting for many weeks in water (Fig. 11). Equally striking, but very different in character, are the fruits of *Pterostyrax hispidum*, with pendant bunches of spindle-shaped seeds having feathery appendages which are the remains of persistent styles and calyx-lobes, all of which are thickly covered with short brown hairs (Fig. 4). This tree needs a warm sunny position if it is to flower and fruit satisfactorily. One other item from this outstanding exhibit from Northern Italy must be mentioned, although it is not a shrub. This is the fascinating seed-pod of the lotus, *Nelumbo nucifera*. Its extraordinary flat heads, with holes containing the seeds, are so decorative that they are highly prized for flower arrangements, when painted, gilded or in their natural state (Fig. 1). As the pod dries the holes enlarge and the seeds shrink until they are small enough to escape. I overheard one woman, who was much interested in these exotic pods, comment to her friend, "Looks more like the nozzle of a watering can if you ask me". I must admit that there is a marked resemblance in the structure of the plant. Lotuses, alas, require just a little more heat than is possible in most gardens, but they are wonderful for indoor pools in the heated conservatory!

Often nature produces effects which are as happy as those of even a skilled gardener. Think of country lanes with hedgerows of thorns, red with berries, and the lighter, more brilliant scarlet hips of the dog rose intermixed with the white flossy heads of old man's beard, and the gleaming red juicy berries of bryony, festooning and often smothering them. These are as familiar to the Britisher as the velvety red heads of the sumach (*Rhus typhina*), the orange and sealing-wax-red of the bittersweet (*Celastrus scandens*) and the feathery whites and mauves of the wild asters, the parents of our more sophisticated and domesticated Michaelmas daisies, are to Americans on the East coast, especially in New England and the central states.

The variations in types of berries and fruits are as marked in shape and texture as in colour and size and if we were birds we would probably include taste as well, as we would be connoisseurs of sorbuses and berberises, just as we are of strawberries and raspberries. If fruits are large and hard they have a better chance of survival, as the smaller birds cannot swallow them like currants or peck at them as they do strawberries or cherries, and this probably explains why some of the large fruited thorns like *Crataegus carrierei* go so long unmolested.

DR. WILFRID FOX in his lecture on the Winkworth Arboretum (R.H.S. JOURNAL, **79**, 1954, p. 86) points out that of the genus *Sorbus*, in which he is particularly interested, the native *S. aucuparia* is more prolific of berries than the foreign species but that the birds are particularly fond of its berries, although they do not care so much for the yellow form.

There seems to be some question as to whether this is a matter of colour or taste, and SIR EDWARD SALISBURY endorses the latter view. Birds also do not seem to care for the white or pink fruited sorbuses like *S. hupehensis*, *prattii*, *cashmiriana*, etc.

Frost is another factor in the longevity of fruits. Hard berries like those of thorns, hollies, cotoneasters and some berberises, or those filled with many small seeds with a minimum of fleshy coating, like the hips of roses, are little affected by cold, while the succulent juicy ones such as *Viburnum opulus* or the fruits of elders are soon frosted and drop to the ground, although usually the birds have these varieties first. It should be remembered that much as we may deprecate the ravages of birds, they are part of nature's plan for the dissemination of seeds and the features of certain fruits to which we may object are the very ones which provide appeal for the birds.

A friend recently complained because he had been to Kew and found very few berries. At Kew, as at most other botanic gardens, fruits and berries are carefully collected for subsequent seed distribution and in order to do this the collector must go the rounds regularly, harvesting all berries before the birds do their worst. Hence if you wish to see fruiting trees and shrubs, gardens like Kew and Wisley are not the best answer.

Questions are continually being asked about the failure of certain trees and shrubs to fruit. The causes of this are legion and often easily explained. Many shrubs are unisexual, that is they have only male or only female flowers. Others are hermaphrodite, having both male and female reproductive organs and are capable of producing both pollen and seeds as well. Sea buckthorn (*Hippophae rhamnoides*) is a good example for there are both male and female plants. The female plants cannot produce fruits without the presence of a male plant to pollinate it. The male plant of course will never fruit. As a result two or more plants are always necessary and unless it can be definitely established that one is male and the other female, a larger group is a better risk. To the fruit grower who knows about the fertility rules and the need for special varieties of pears and cherries as pollinators this is no surprise.

On the dunes along the Channel to the west of Boulogne there are hundreds of acres of this lovely grey-leaved shrub, growing in wonderful stunted and twisted shapes as the result of the lashing gales from the sea. In mid-September some were a mass of light orange berries clustering close to the dark stems while others were berryless. Here in nature and illustrated on a vast scale was the proof of the above. What a wonderful sight they were with their narrow silvery foliage and brilliant berries against a background of sand and sea and sky. Fortunately the birds do not like these berries and they last into the new year (Fig. 7). At Westonbirt in the Arboretum there is a fine planting of sea buckthorn in conjunction with the pinkish mauve foliage of *Euonymus alata*.

Skimmia japonica is another example of the above for this shade-loving evergreen also has unisexual flowers. Both the male and female bushes bear sweet-scented flowers in the winter, followed on the female plants

by brilliant red berries which last for a very long time. Obviously in every planting, whether large or small, a male plant must be included. Strangely another species in the same genus, *S. fortunei*, has bisexual flowers and produces fruits which are darker and more egg-shaped than those of *S. japonica*. A word of caution though; it is very intolerant of lime.

Fortunately the vast majority of shrubs and trees are not unisexual so if these do not fruit, another reason must be found. Some plants do not flower until they are of considerable age, *Magnolia campbellii* being a classic example, taking twenty years or more to produce its first flowers. And obviously no flowers, no fruits. Sometimes flowering and fruiting of certain genera can be induced by root-pruning or by transplanting, which serves a similar purpose. Figs are a good example of a tree that needs restriction of the roots or root-pruning to produce fruits.

Other plants may not fruit because of soil or environmental factors such as the presence of lime for ericaceous plants or lack of sunshine. As an example, I know of a planting of *Viburnum betulifolium* in rich soil, but in very heavy shade. The bushes never bore fruit—a great tragedy for its brilliant currant-red translucent berries, usually so profusely borne and of such long lasting quality, put it at the top of my list of decorative berrying shrubs. The plants were moved to a position in light shade where they had sun for a good part of the day and after the first year fruited profusely. This *Viburnum* has always been rated very high at Exbury and MR. NORMAN HADDEN at Porlock also esteems it and finds that the birds do not molest the berries until very cold weather sets in (Fig. 5).

In our London garden there is a specimen of the attractive golden cut-leaved elder, *Sambucus racemosa plumosa-aurea*. It occasionally flowers but never fruits. Imagine our surprise when in August we saw a fine plant grown from a hard wood cutting, taken from the tree in our garden a few years ago, which was a mass of flat clusters of brilliant red berries, in striking contrast to the brilliant yellow feathery foliage. From the number of birds hovering around it, and the continual rustling of the foliage one doubted that the berries would be there much longer. Obviously this particular shrub does not fruit in London, or rather more correctly in our particular garden.

In a country garden *Cotoneaster conspicua* var. *decora* has for years refused to fruit although at Highdown it gives a wonderful autumn display and is a feature of the garden, specimens having received an F.C.C. when shown in 1953. Perhaps there is no explanation to this problem, just as there never was an answer to why two recalcitrant *Berberis thunbergii* in the middle of a long hedge behind our house in America never fruited. All the rest produced so many little long pendulous red berries that the spiny bushes were always a mass of scarlet throughout the winter. Every bush had come from the same source and they were obviously the same species. This berberis always retained its berries until well into the new year and figured prominently in Christmas decorations when holly was scarce.

Some plants do not produce their fruits with the same abundance each year, sorbuses, for example, fruiting heavily one year with many fewer the next, in a regular alternation. Others need a hot dry summer to ripen and colour well, while others lose their crops because of late spring frosts.

Certain plants can almost always be relied upon for a show. *Cotoneaster* as a genus is outstanding, and what a choice there is in size and habit, ranging from the almost prostrate *C. dammeri* and *C. buxifolia*, through *horizontalis*, which is so excellent for slopes, and *microphylla*, which is used on walls, to the giant 'Cornubia' or *C. watereri*, two of the best of all hybrids as they produce berries in profusion. The berries vary in size and in the manner in which they are borne, from the rather pendulous bunches of *C. frigida* to the little bunches of orange-scarlet berries, borne close to the stems, on the upper sides of the branches of *C. franchettii* var. *sterniana* (A.G.M.) (Fig. 3) or *C. wardii*. Yellow-fruited cotoneasters are not plentiful, but there is *C. salicifolia fructu luteo* which makes a pleasant change from the reds and scarlets, and there are outstanding Exbury hybrids including *C.* × *rothschildiana* and *C.* × *exburiensis*.

Pyracanthas are so well known that they hardly need further mention, but *P. coccinea* var. *lalandii*, *atalantioides* and *crenulata*, the last being good on shaded walls, are valuable. Again there are golden forms of the last two species. *P. watereri* is a hybrid of recent introduction which seems particularly free in the production of fruit (Fig. 6).

Another yellow-fruited small tree is *Malus* 'Golden Hornet' which provides such a wealth of small golden apples that the trees are dazzling in the sunshine (Fig. 8). They also seem to last well as last year there were still fruits on our small tree well after Christmas. Decorative crabs are excellent. 'John Downie' with its bright yellow and red fruits is justly popular as is *M. eleyi* which has masses of purplish red ones.

Rose-coloured fruits are particularly attractive either alone, or in combination with scarlet or orange. The spindle tree *Euonymus europaeus* with its rosy pink capsule, which splits to reveal the orange-red seeds, always has an enthusiastic reception whenever it appears on the show bench and it is equally effective in the garden. It forms a shapely small tree which fruits well but not always with consistency from year to year. *E. yedoensis* has purplish pink fruits, but the orange seeds are not conspicuous as they are more enclosed. At Underway, in Porlock, the latter has proved particularly satisfactory.

Sorbus hupehensis has lovely pale rose berries which last well into the winter and those of *S. vilmorinii*, although red at first, gradually pale to white flushed rose. Pernettyas offer wonderful shades of pink and rose, and there is *Symphoricarpos orbiculatus* with clear pink berries as well as some interesting new Dutch hybrids.

One of the most fascinating groups of berries and fruits are those in the blue and purple colour range. Perhaps this is a personal preference but anyone who has seen *Vitis heterophylla*, covered with bunches of

small brilliant porcelain blue berries, is struck with its beauty. It is in every respect an attractive twining climber with its luxuriant hop-shaped leaves, more delicate and deeply cut than many other species. Unfortunately it needs a sunny hot summer to produce in quantity its vivid fruits, and after a summer such as the last, many specimens will not fruit at all. As a result it is best to plant it in a sunny sheltered place. Young plants take some time to bear fruit as they must establish first. Clusters of the berries make an effective table decoration and, unlike many blue fruits, they show up well at night, probably because of the curious turquoise colouring of the blue which looks almost as if it were a blue glaze overlaid on white.

Another species of great distinction is the seldom grown *Symplocos paniculata*. This delightful Chinese shrub has a twiggy habit and in time grows into a small branching tree. In May there are quantities of fragrant white flowers borne in panicles. Then in late September the round berries, about the size of a shoe button, suddenly begin to turn from emerald green to blue, a few at a time until by the middle of October the bush is covered with brilliant blue berries. This shrub is a great feature in the Savill Gardens at Windsor, where there are several large plantings of it, and the plants have already attained considerable size. When the Commissioners of Crown lands exhibited it in the autumn of 1954, it received a First Class Certificate, and it figured prominently in the wonderful exhibit of autumn fruits and berries staged by Windsor in 1955. Unfortunately it does not show well when picked and for its full beauty to be appreciated it must be seen growing in the bush under the open sky. Birds are very partial to the berries and soon strip them.

Viburnum davidii is remarkable in a genus in which most of the species have red, yellow or black fruits. Those of the former are a lovely porcelain blue. These are particularly effective when seen against the large dark leaves. It is essential to plant it in groups if the plants are to fruit as several are necessary for cross-fertilization. *V. davidii* is a particularly useful plant because of its bold leaves and the low compact habit of the plants, especially in planting around buildings and along terrace walls where planting must be kept low. Although the berries of *V. henryi* are not blue, it seems worthwhile to mention this species because it is free-fruiting, the large compact shrubs being covered in autumn with masses of red berries, which gradually deepen in colour until they become a glistening black. This shrub is particularly effective when the berries are changing colour and there are red, wine-coloured and black ones together on the same plant. The various varieties of *V. opulus* are too well known to need comment, but *V. dilatatum*, with its glistening currant-red berries like beads borne erect in clusters, is outstanding and too little grown. Again with the latter cross-pollination must be arranged for by planting more than a single shrub.

Various species of *Mahonia* have lovely frosted blue or purple berries borne in long racemes. The plum-purple berries of *M. aquifolium* are of course the best known, followed by *M. japonica bealii*

with its paler berries. The closely related *Berberis* also has a few species with blue berries. One of the loveliest is *B. hypokerina*, an introduction by KINGDON WARD, from Burma. The dark blue berries are covered with a silver bloom as are the undersides of the large holly-like leaves. It was named "Silver Holly" by its collector and this name is certainly apt.

A very striking climber is the Tasmanian *Billardiera longiflora* with large berries, sometimes as much as an inch long, of a deep blue often shaded with deep violet-red. These rather fleshy berries are of curious shape, with curved channels on the four sides. Another striking plant, but one far too tender for most gardens, is *Dianella intermedia*. It is native to New Zealand and has bunches of berries of such a violent blue that they have about them a look of unreality. The fruits of *Sinofranchetia sinensis*, which appear from time to time in competitions for autumn fruits and berries, also have an unreal look about them. The fruits, which are borne on either side of a pendulous stem, about a foot long, look not unlike mauve quartz as they have a shiny transparent surface and a subtle variation of colour. This interesting tree grows particularly well at Wakehurst. One more very unusual fruit belongs in this group. This is the long tapering pod of *Decaisnea fargesii*, which looks like a very large broad bean with the colour and bloom of a ripe purple fig. It is very striking and rarely seen (Fig. 9).

The genus *Vaccinium* offers several species with blue berries and, of course, in the United States the blueberry is not only widely collected in the woods, swamps and pastures, where it abounds, for home consumption in pies and cakes and as a fruit eaten like blackberries or wild strawberries, but it is today an important commercial crop. Many fine large-fruited hybrids have been developed by breeding and selection. In this country most of the species grown do not have edible berries. This genus is valued not only for its fruits but for its brilliant autumn foliage. There are various species grown in this country for their decorative value, particularly the Himalayan *V. glauco-album*, the foliage of which, as well as the berries, is covered with a silvery blue-white bloom. This species has done particularly well at Bodnant where it fruits profusely and seems to be little bothered by the birds. *V. myrsinites*, the evergreen blueberry, also is prolific of its blue-black fruits.

Few shrubs offer such a striking colour scheme as the genus *Clerodendron*. Of the two species, *C. fargesii* and *C. trichotomum*, the former seems to flower and fruit more freely in some localities, but the choice is really a personal one. Both have deliciously fragrant flowers in August and early September, followed by turquoise blue berries surrounded by maroon calyces. This colour combination is so striking that it is unforgettable. Unfortunately it does not photograph easily in black and white, and, although it is one of the most spectacular of all colour combinations, it cannot be illustrated here.

Another shrub with a fruit of a most striking colour is *Callicarpa*. There are several species including *C. japonica*, *dichotoma* and *bodinieri giraldii*. All are characterized by attractive foliage which turns in the

autumn to subtle shades of mauve and purple, making a foil for the small but profusely borne berries of a violent lilac-purple. There is no other plant to my knowledge which duplicates this vivid colour. *Callicarpa* is lovely when grown in conjunction with grey-foliaged shrubs. A mixed planting of it and sea buckthorn is striking, the grey and orange of the latter making a daring foil. It is also lovely with *Elaeagnus argentea*, which has bright silvery green leaves and myriads of rose-coloured frosted berries, or with *E. multiflora*, which also has silvery foliage but berries of glowing orange. *Elaeagnus* should most certainly be grown for its foliage, for the fruits and, in the case of *E. pungens*, for its flowers of intoxicating sweetness.

To include all the outstanding shrubs with berries in the blue and purple range, is of course, impossible but one more must be mentioned. This is the charming little ericaceous shrub *Gaultheria tetramera*. It seldom exceeds two and a half to three feet in height, and after racemes of delicate heath-like flowers, produces plump berries in various shades of blue. The variation of china, French and Prussian blues adds to the fascination of this charming plant. Gaultherias are attractive for the lime-free woodland garden as they are small in size, distinguished in habit and have a wide variety of foliage, flower and berry forms. The Chinese species *G. cuneata* has large white berries, *miqueliana* white to pink ones, *procumbens* bright red and the familiar *shallon* dark purple. Then there is the fine generic cross between *Gaultheria shallon* and *Pernettya mucronata*, *Gaulthettya wisleyensis*, which produces an abundant crop of purplish-maroon berries.

In the Windsor exhibit mentioned above the fruits of conifers also figured. One of the most startling was the great prickly greenish-brown fruits of *Araucaria araucana*, not unlike a sinister spiny artichoke. Then there were the frosty rosy red translucent cups of *Taxus baccata* and the rich apricot gold of its variety *lutea*, the yellow-berried yew. *Abies koreana* provided fine cones of interesting form and colour. Many Fellows of this Society will remember the exhibit of conifers staged by MR. FRANK WYATT in 1948, a photograph of which was figured in the JOURNAL for January 1949.

In recent years we have become increasingly aware of the beauty of rose hips. Those in the British hedgerows need no praise from me. There are the prickly, chestnut-like burs of *Rosa roxburghii*, the sealing-wax red, flask-shaped hips of *R. moyesii* and *R. highdownensis*, which last well on into the winter and even the spring, as do the large apple-shaped fruits of *R. rugosa*. In marked contrast are the small gleaming black fruits of *R. spinosissima* and its many hybrids. In 1953 *R. virginiana* received an A.M. as a fine fruiting plant, and justly so, for few plants have such gleaming red, bead-like hips which last well into the winter. Some of the climbing roses are particularly prolific in the fruits which they produce. *R. soulieana* and *sinowilsonii* cover themselves in good seasons with clouds of small red hips.

It is impossible to mention all the fruits which come to mind. There

are the fascinating strawberry-like fruits of *Arbutus unedo* which appear in autumn together with the flowers. Then there are the dusky red pendulous fruits of *Cornus kousa chinensis* and those of *C. capitata*, rather like deep rose lychee nuts spotted with darker seeds at intervals. The fruits of the American bitter-sweet, *Celastrus scandens*, with its three dark red fleshy seed capsules surrounded by three reflexed bright orange sepals, are always lovely and the sight of these brilliant fruits twining through a tall tree against a background of blue sky is unforgettable. In contrast there are the inconspicuous fruits like a khaki-coloured medlar, the satiny brown acorn in its little cup of the common oak (*Quercus pedunculata*) and the brown nut-like fruits of camellias and stewartias. Others, like the hollow bladders of *Colutea arborescens*, or the long racemes of winged fruits of *Acer rufinerve* in shades of pink, amber and green, or the coral red pendulous berries of *Berberis rubrostilla*, offer remarkable contrast.

As I finish this article after a trip through New England I am struck by the great abundance of berries and fruits here after a wet summer, while at home, after an even wetter and very much colder one, it is a poor fruiting season. Here *Cornus florida* along the roadsides is covered with clusters of red berries, while berberis, privets, and loniceras of various varieties are a mass of colour, It would seem that this more prolific fruiting is the result of the hotter weather and brighter sunshine which hastens the ripening of the fruits. One has only to remember the wonderful display after the hot summer of 1955. An unforgettable part of the Windsor display in the autumn of that year was the collections of berries and fruits stripped from the stems and scattered on the staging like jewels from a casket. One could find rose quartz, uncut rubies, coral, lapis, turquoise, amber, jade, cornelian, onyx and all the others. Such a rainbow of colours had to be seen to be believed. All were the ripened fruits of trees and shrubs, familiar and unfamiliar.

PLANTS AND PROBLEMS—XXXI

WOOD LEOPARD MOTH

Question. I found a large creamy-white caterpillar marked with black dots tunnelling in the branch of my apple tree. Can you tell me what it is and what I should do to prevent further damage.

Answer. The caterpillar is that of the Wood Leopard moth, *Zeuzera pyrinea*. It is often found in the branches of trees such as apple, lilac, etc., and its presence is betrayed by the sawdust and frass around the hole; when fully fed, after about two years, it attains a length of about 2 inches and pupates in its burrow.

The adults are large, greyish-white moths, their wings marked with black. They are on the wing in July, when they lay yellow

eggs singly on the bark of trees. In due course the young caterpillars hatch and burrow into the wood.

All dead wood should be cut out, and if it is necessary to kill the caterpillar within the tunnel, a few crystals of paradichlorobenzene should be sealed into the hole with putty or clay.

PLUMS – PRUNING YOUNG TREES

Question. Should young plum trees be pruned when dormant or in the summer as for established trees?

Answer. Young plums are best pruned in early spring just before the buds burst. Summer pruning has been done successfully but should not be generally adopted.

UNHEALTHY CYCLAMEN

Question. Nearly every Christmas for a good number of years I have been given a cyclamen in a pot. It looks beautiful for about a fortnight and then it starts to "go off" and, before long, it dies. Can you please give me some general guidance on how to keep this plant indoors?

Answer. The unhealthy state of cyclamen grown indoors is generally caused through dryness and lack of moisture in the air. The remedy for this lies in correct watering, but often the beginner does not know how much water to give and is confused by the fact that the effects of dryness and excess of moisture are similar in appearance. As a general rule, it is unwise to water until the soil is starting to dry out, then stand the pot up to the rim in a bucket of water so that the whole of the soil is thoroughly moistened. When watered from above it often happens that only the soil near the edge of the pot is damp while, in the centre, most of the soil is quite dry. Other factors proving detrimental to cyclamen are draughts, cold (a temperature of 50°–55° is ideal), sudden changes in temperature, and fumes from a gas fire.

NOTES FROM FELLOWS

Adenium coetaneum

THIS plant, which was shown before the Floral Committeee 'B' of the R.H.S. on October 16, 1956, when it was given an Award of Merit, is virtually unknown in cultivation in this country and, indeed, is seldom seen outside Africa (Fig. 14). In its native habitat it makes a much-branched shrub of perhaps 3 feet high and as much through, and twice a year is covered with rosy-purple tubular flowers 2 inches long and as much as 1 inch to 1½ inches across. Obviously long-lived, it presents a somewhat gnarled appearance and the branches are pliant—in fact, almost rubbery. Its habitat is given as tropical East Africa and it is one

of a genus of possibly fifteen species, the only other known to the writer being *Adenium obesum*. He first saw it in a garden in Bulawayo in Southern Rhodesia and again a year later in Singapore where it appeared to be one of the more common and most popular pot plants on the island. Occasionally it had been planted out, and the free-draining sandy soil and brilliant sunlight of the area appeared to suit it admirably. Its native name in Rhodesia is the "Saabi Star" and it occurs on the borders of that country and Portuguese East Africa. The writer brought back two plants from Singapore some years ago and they have settled down and appear amenable to cultivation here. They are kept in an unshaded house where the minimum temperature is 50° F. and the maximum may be 90° F. During the winter months they are kept very dry and are never allowed to be soaked at any period as it must be remembered that the average rainfall of their native haunts is probably never more than 8 to 10 inches and may well be very much less. They have been potted in a light, sandy, mixture containing a quantity of small broken crocks and have always been undisturbed for as long as possible. Under these circumstances the plants flower twice a year, in May and again in September, and the flowering period may last for as much as eight weeks on each occasion. Propagation is by seeds and cuttings, but the latter method has not been successful here and so far no seeds have been set. There is no doubt that if this plant were readily obtainable it would be widely cultivated as it appears tolerant in its requirements and gives a brilliant account of itself for some months in the year and would be a very long time in outgrowing its allotted space.

L. MAURICE MASON

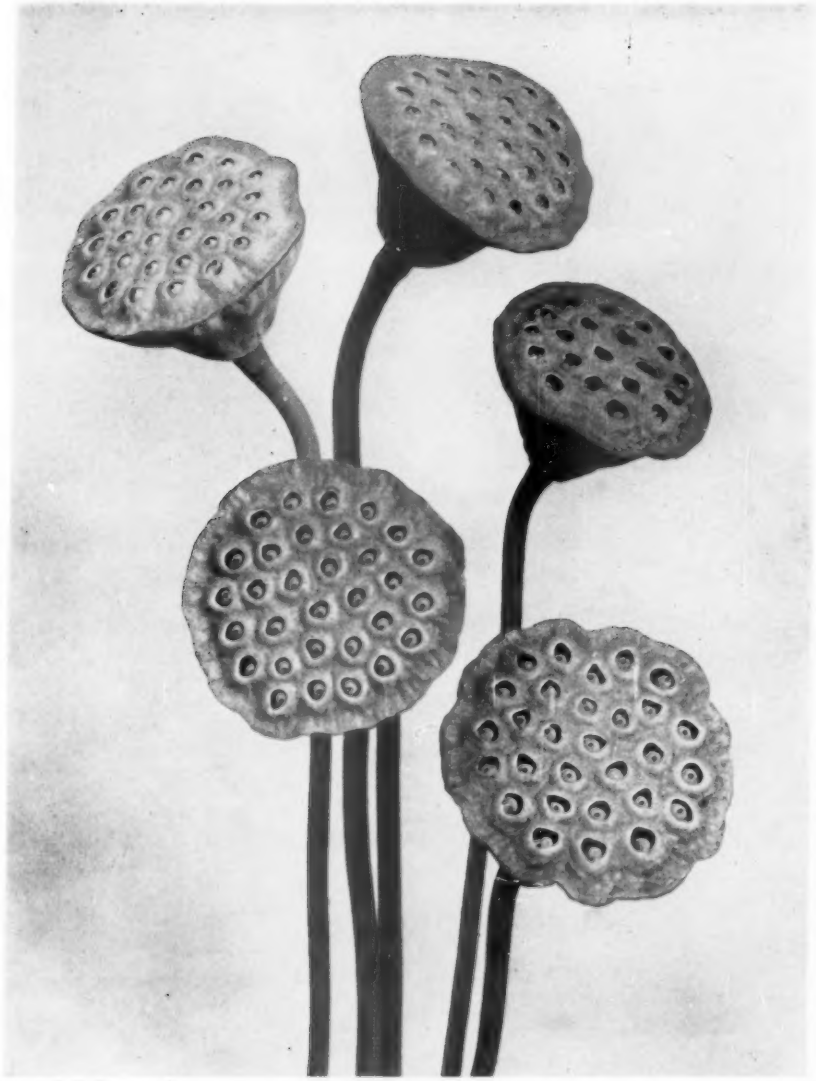
Talbot Manor,
Fincham, Norfolk.

Cycnoches chlorochilon

This very remarkable orchid was introduced to cultivation in England in 1830 by the Messrs. Loddiges, of Hackney, who obtained it from Demerara. The stout, terete stems or pseudo bulbs are surmounted by two or three fairly large leaves which have conspicuous sheathing at their bases, but other and smaller leaves appear lower down the stem. The short-stemmed inflorescence arises from the axil of an upper leaf and may carry two or three large flowers.

In the variety 'Stonehurst' (Award of Merit), exhibited on October 16, 1956, by R. STRAUSS, ESQ., Ardingly, the flowers measured fully 5 inches in breadth. The ample and rather fleshy sepals and petals were yellowish-green, but in some forms they have shown more yellow colouring. The lip seems to stand upright, is creamy-white with a prominent blackish-green, hollowed blotch near the base (Fig. 13).

Considering the size of the flowers the yellow column is very long, very slender and curved, and carries the pollinia at the flattish tip. This combination gave rise to the popular name of "Swan Orchid", or "Swan-neck Orchid" and very little imagination is needed to convert the sepals



Photo, J. E. Downward

DECORATIVE AUTUMN FRUITS AND BERRIES

FIG. 1—Seed-pod of the lotus, *Nelumbo nucifera* (See p. 13)

DECORATIVE AUTUMN FRUITS AND BERRIES

FIG. 2—*Pernettya mucronata*, white form (See p. 11)

Photos, J. E. Downward

FIG. 3—*Cotoneaster franchettii* var. *sterniana* (See p. 16)

Photo, J. E. Downward

DECORATIVE AUTUMN FRUITS AND BERRIES

FIG. 4—*Pterostyrax hispidum* (See p. 13)

Photos, J. E. Downward

DECORATIVE AUTUMN FRUITS AND BERRIES

FIG. 5—*Viburnum betulifolium* (See p. 15)

FIG. 6—*Pyracantha watereri* (See p. 16)

FIG. 5—*Viburnum betulifolium* (See p. 15)

FIG. 6—*Pyracantha watereri* (See p. 16)

Photos, J. E. Downward

DECORATIVE AUTUMN FRUITS AND BERRIES

FIG. 7—Sea buckthorn (*Hippophae rhamnoides*) (See p. 14)

FIG. 8—*Malus* 'Golden Hornet' (See p. 16)

Photos, J. E. Downward

DECORATIVE AUTUMN FRUITS AND BERRIES

FIG. 9—*Decaisnea fargesii*, with large blue-purple fruits like a broad bean (See p. 18)

FIG. 10—Fruits of *Paulownia*—top, *P. fargesii*, bottom, *P. fortunei* (See p. 12)

FIG. 9—*Decaisnea fargesii*, with large blue-purple fruits like a broad bean (See p. 18)

FIG. 10—Fruits of *Paulownia*—top, *P. fargesii*, bottom, *P. fortunei* (See p. 12)

Photos, J. E. Downward

DECORATIVE AUTUMN FRUITS AND BERRIES

FIG. 11—*Idesia polycarpa* (See p. 13)

FIG. 12—*Diospyros kaki*, the persimmon (See p. 12)

Photos, J. E. Downward

FIG. 13—*Cycnoches chlorochilon* 'Stonehurst', an unusually fine form of the Swan Orchid which received an Award of Merit when shown by R. STRAUSS, ESQ. (See pp. 22 and 38)

FIG. 14—*Adenium coetaneum*, an unusual plant from East Africa, which was given an Award of Merit on October 16, 1956. Exhibited by L. MAURICE MASON, ESQ. (See pp. 21 and 36)

and petals into the feathers and body of a swan. Probably because the pollen tubes could not proceed down such a long and slender column nature has produced a female flower on a separate plant to insure the continuity of the species. Female plants are very seldom seen in cultivation.

Cycnoches chlorochilon is attractive without being handsome. Even the male form is by no means common in modern collections of orchids and needs considerable warmth and atmospheric moisture during its period of active growth to bring it to successful flowering. A good illustration of the species is to be found in the *Orchid Album*, Vol. 5, p. 263, but the column is shorter than in MR. STRAUSS's plant, and green instead of yellow.

C. H. CURTIS

Breeding Herbaceous Lobelia

In the R.H.S. JOURNAL for June 1955 will be found a note on *Lobelia cardinalis* × *L. syphilitica* hybrids, and since that was written additional information has been obtained, which may it is hoped be helpful to those interested in growing and breeding herbaceous lobelia.

The seed germinates best if sown as soon as ripe, when up to 100 per cent can be expected. If sown in January in heat, good strong-flowering plants can be expected by the autumn, but the germination is a little less good, and from then on it will be less and less satisfactory.

The rather extreme weather conditions during the winters 1954–5 and 1955–6 proved useful in testing the resistance both to damp and frost of the hybrids raised between *L. cardinalis* × *L. syphilitica*, and one was struck by the fact that the F.1 species hybrids with their increased vigour came through entirely untouched. This hardiness appears to be due to the fact that heterozygous factors exist in these F.1 hybrids, as losses occurred among the F.2 seedlings, and among both parents, whether they were in the open, in cold frames, or in a greenhouse kept just above freezing point. The heaviest losses were among the forms approaching *L. syphilitica*, 75 per cent of these plants being lost. Among the F.2 plants lost, many were forms with bronze-purple foliage, so it would appear hardiness is linked with the green-leaved varieties. This purple foliage is recessive to the green-leaved plants.

In the previous note it was mentioned that dwarf plants 9 inches high appeared among the F.2 seedlings raised from the tall parents. These have now been crossed back with *L. cardinalis* and produced all tall plants in the F.1. In 1955 these F.1 were crossed back with dwarfs, and the F.2 obtained are half dwarf and half tall. Plants have thus been obtained which vary in height from 5 inches to 5 feet.

Concerning flower colour, *L. cardinalis* × *syphilitica* produced all petunia-purple seedlings in the F.1, and when *L. syphilitica alba* was used with *cardinalis* equal numbers of phlox-pink and mauve seedlings resulted. The F.2 from these plants produces a great range of colours, which checked with the Horticultural Colour Chart include the following

was given an Award of Merit on October 16, 1956. Exhibited by L. MAURICE MASON, ESQ. (See pp. 21 and 36)

by R. STRAUSS, ESQ. (See pp. 22 and 38)

in addition to those previously mentioned: Carmine (H.C.C. 21 & 21/1), Cardinal Red (H.C.C. 822/1), Cherry Red (H.C.C. 722/2 & 722/3), Chrysanthemum Crimson (H.C.C. 824), Phlox Pink (H.C.C. 425), Tyrian Purple (H.C.C. 727/2), Roseine Purple (H.C.C. 629/2), Paeony Purple (H.C.C. 729), Cyclamen Purple (H.C.C. 30), Petunia Purple (H.C.C. 32), Doge Purple (H.C.C. 732/2), Imperial Purple (H.C.C. 33/1), Violet (H.C.C. 36/2), Campanula Violet (H.C.C. 37), Hyacinth Blue (H.C.C. 40/1), Lobelia Blue (H.C.C. 41 & 41/2), Flax Blue (H.C.C. 642), and Gentian Blue (H.C.C. 42/1 & 42/2).

Surely a wide enough range of colours to please most gardeners, but not always with the individual flowers as large and showy as *L. cardinalis*. However, in many cases this is offset by the larger number of flowers produced closer together on the spike, often fifty and over. This is particularly so in some of the seedlings having the new dwarfs as one parent.

Propagation of most of these plants is extremely easy from cuttings, which root freely from the lower portions of the stem, and some have the toughness (expected by gardeners) of plants suitable for permanent planting in the herbaceous borders in this country.

H. C. PUGSLEY

Derby.

HARDY FERNS—II

THE MALE FERN

Gerald Perry

"When the fern is as high as a spoon
You may sleep for an hour at noon:
When the fern is as high as a ladle,
You may sleep as long as you're able:
When the fern begins to look red,
Then milk is good with brown bread."

(*Old Writing.*)

In a previous article in this JOURNAL* I wrote at some length on the virtues, legends and stories connected with the royal fern (*Osmunda regalis*), and mentioned as a point of interest its wide geographical distribution. The subject chosen for these notes, the male fern, has, as will be discovered later, an even greater cosmopolitan range.

The male fern (*Dryopteris filix-mas*) is probably the best known of all hardy ferns. It derives its common name from its robust, sturdy growth, which contrasts markedly with that of the similar lady fern (*Athyrium filix foemina*). A well-grown specimen is particularly handsome with the tall, graceful fronds rising in shuttlecock fashion from a stout, divided

* R.H.S. JOURNAL, 81, 22.

rootstock or caudex. This caudex is clothed with the fleshy and persistent frond bases of previous years' growth. If cut open they are found to be of a rather fleshy texture and a pale yellowish green colour. It is these which have given the male fern its reputation as an anthelmintic and earned it its place in the *British Pharmacopoeia.*

The male fern fronds are of a delicate pale green colour and grow from 2 to 3 feet in height. In April when these start to develop, they are curled round like the flutings of a snail shell and protected from rain and wind by large, chaffy, light-brown scaly hairs. Scottish children, probably because of these scales, sometimes call the plant "bear's foot" fern. As growth develops, these appendages clothe only the lower parts of the stem, becoming gradually smaller in size and fewer in number towards the top of the fronds. By mid-May the handsome green sprays are fully grown and mid-summer sees their complete development. Then the dark-brown masses of spore cases show prominently on the under surfaces of the fertile leaves, a circumstance which has made the male fern the best species to use in order to study fructification. It is employed for this purpose in schools and colleges in many parts of the world.

Occasionally a few fronds—or perhaps a whole plant—will prove barren. When this occurs the foliage is brighter and of a deeper green tint. Individual frond segments are slender and tapering, the pinnules oblong and serrated at the edges and joined to one another at the base. The very lowest ones are, however, free.

The distribution of the male fern is extensive, for it is found throughout Europe and Asia, from Lapland to Japan, and up to a height of 15,000 feet in the Himalayas. In the west it stretches from Greenland, along the Rocky Mountains to Peru, and in the south from North Africa, through Abyssinia to the Cape of Good Hope and adjacent islands. HOOKER in his voluminous work *Synopsis filicium* states that at the extremes of this wide distribution, the plants differ widely but a clear line cannot be drawn between these differences, and so they must necessarily remain as one well-defined species. After *Pteridium aquilinum*, the bracken, and *Capsella bursa pastoris*, the shepherd's purse, I believe the male fern has the most extensive geographical distribution of any member of the vegetable kingdom.

It is an interesting fact, that, in spite of the present cosmopolitan range of the plant, it appears to be entirely absent in fossil form from either chalk deposits or Coal Measures. I can even go further than this and state that among all the fossil ferns I have seen—and some have been beautiful specimens with every minute detail clearly defined—I have yet to see the impression of any hardy fern that I recognize as growing in this country today.

In some varieties the fronds die down in winter, but in others they remain fresh and green throughout the most adverse weather. The latter are invaluable for indoor winter decoration. One of the most outstanding forms is var. *cristata* which was found many years ago near St. Austell, in Cornwall. A robust, evergreen form, it has (in common

with many other hardy ferns) a tendency to produce lateral buds at the base of the fronds. These later develop independent roots and grow into full-sized plants, soon making congested colonies. It is, therefore, advisable to remove these offsets before they get too large and spoil the shape of the original plant. A blunt trowel or hand-fork may be used for this operation. This form reproduces almost true to type from spore.

A narrower-fronded form of this variety is known as *Dryopteris filix-mas cristata angustata*, and a dwarfer and more congested plant is listed as *crispa cristata*. In the latter, the pinnae are opposite on the lower part of the frond and sub-opposite above, their apices being large, branched and tassellated. The point of each frond and pinna is also twice or thrice forked, thus forming a small spreading crest.

Abbreviata is a variety with distinct character, dissimilar to all other forms. A small fern, usually not more than 12 or 18 inches in height, it has curved pinnules which are large, broad and rounded, with the lobes crenate-lobate. This plant revels in damp peaty soil amongst rocks.

Var. *foliosa* has close, overlapping pinnae, arranged down the stem (which is covered with dark-brown scales) like the tiles on a roof. These are broad at the base, pointed at the tips and rather smooth. The fronds are dark green above and a paler shade beneath.

Var. *furcans* is a stronger-growing, handsome fern, differing from the type plant by its pinnae. These are divided—mostly once, but occasionally twice or three times—so that they somewhat resemble a fish-tail. There is a sub-variety of this form in which the furcations are widely spread at times, almost at right angles to the stem, rather like the horns of a bull.

Var. *jervisii* is a large-growing, tassellated fern, with wide, lanceolate fronds which are much branched at the ends. The pinnae are elongated, with irregular margins and the basal portions tufted into acute pinnules with serrated edges. This plant was named in honour of a MR. SWYNFEN JERVIS, who discovered it growing near his home at Darlington Hall, in Staffordshire.

Var. *polydactyla*. In build this remarkable fern is somewhat similar to the parent plant, except that the branchlets from the main stem are more loosely placed and, sometimes on an old-established plant, may exceed 5 inches in length. Each branchlet is divided towards the apex and again sub-divided, eventually forming a crisp tassel. This plant normally grows to a height of 3½ feet.

Var. *robustissima*. This fine variety is considered to be the best form for sunless town gardens. The gigantic fronds will achieve a height of 4 feet or more. The stem is densely clothed with rich, reddish-brown scales, so thickly matted as to make the stem appear an inch or more in diameter at its base. The branchlets, commencing about 9 inches from the ground, are closely arranged for the whole length of the stem, gradually narrowing towards the apex. All the upper pinnae are furnished on the undersides with spore cases, which are large and very

prominent. I have counted up to 220 on an individual pinna removed from the centre of the frond. It is important to remember when planting this fern to select a site where it can develop and remain undisturbed for many years.

As already mentioned the male fern has for many years held official recognition as a remedial agent and is probably the only member of the order to be so distinguished. According to MARTINDALE's *Extra Pharmacopoeia* the rhizomes are collected late in the autumn, divested of the roots and dead portions, split open and dried. From other information received this dried rhizome is then reduced to a coarse powder and exhausted with ether—the yield being about 9 to 10 per cent of Extractum Filicus—and is used as a vermifuge. MARTINDALE says that the taste of this preparation is very unpleasant. It is best prescribed in a capsule, or, if in a draught, it may be emulsified with an equal weight of acacia or tincture of quillaia, and flavoured with an essential oil such as cinnamon. This is used for all varieties of tapeworm and *Ankylostomum duodenale*. It appears this extract must be used with care in the medical profession, for O'HASSAN, writing in *The Lancet*, in 1922, warned readers that "Moderate doses almost invariably produce bilirabinoemia and large doses jaundice. There is a risk of chronic cirrhosis of the liver developing." Later, in 1925, the *Journal of Tropical Medicine* stated: "About 100 cases of serious impairment of vision have been reported following administration of *filix mas*, mostly in Southern Germany and Switzerland"; whilst BRITTEN states: "According to Schkur, the rhizome of the Male Fern was in Germany associated with superstitious beliefs and practices." This author states that in former days the so-called "lucky-hands", or "St. John's-hands", were made from the rhizome and unexpanded fronds of this species and sold to credulous people as preservations against sorcery and witchcraft. Writing in 1809, SCHKUR says that "quite recently a clergyman's wife in his neighbourhood bought one of these 'hands'; others purchased for a few groschen small pieces cut off from such a hand, which they gave to their cattle in their drink, believing they would thus be preserved from magic and witchcraft".

From the writings of DIOSCORIDES we learn that "the root hereof is reported to be good for them that have ill spleenes; and being stamped with swine's grease and applied, it is a remedy against the pricking of the reed". An old idea prevailed that this fern had an antipathy to the reed. TRAGUS said that the male fern and the reed would not grow together, and where the one grew the other was sure to be absent.

Another old books states: "Fern being burned, the smoke thereof driveth away serpents, gnats and other noisome creatures, which in fenny countries do, in the night time, trouble and molest people lying in their beds with their faces uncovered."

In former times a great deal of belief was manifested on the mysterious propensities of the male fern. The following extract from PARKINSON sums up the ideas then current on the subject.

"Of the ashes of Ferne is made a kinde of thicke or darke coloured greene glasse in sundry places in France, as in the Dutchery of Maine, etc. (and in England also I have been told by some) out of which they drink their wine. The seede which this and the female Ferne doe beare, and to be gathered onely on Midsommer eve at night, with I know not what conjuring words is superstitiously held by divers, not onely Mountebankes and Quacksalvers, but by other learned men (yet it cannot be said by those that are too superstitiously addicted) to be of some secret hidden vertue, but I cannot finde it exprest what it should be: for Bauhinus in his Synonimies upon Matthiolus saith those tales are neither fabulous nor superstitious, which he there saith he will shew in his History: but Matthiolus, Lugdunensis and others declaime against such opinion: experience also sheweth that they beare seede, although Theophrastus, Galen, Dioscorides and Pliny following him, say they neither beare flowers nor seede: for if about Midsommer (for then usually it is ripe) you gather the stalkes of Ferne and hang them on a thread with some faire white paper or cloth under them, you shall finde a small dust to fall from them which is the seede, and from them doe spring plants of the same kindes, and such young plants risen from the fallen seede have beene seene growing on the earth or in the water (except some double flowers which are increased by the roote) but doe beare seede, etc. Dioscorides relateth a great contrarietie in nature betweene the Ferne and the Reede, that each one will perish where the other is planted, as if it were by a natural instinct, which thing I thinke happeneth rather from the soiles, a Reede not joying in a dry ground nor a Ferne in a wet. Pliny in his 24th booke and 4th Chapter saith that the roote of the Reede,laid to the Ferne driveth it forth, as the roote of the Ferne in like manner doth the Reede: and Celsus before him sheweth that each of them is a remedy against the other, and Theophrastus sheweth that whereas a corne and other herbes doe delight and are furthered by dung, the Ferne only perisheth thereby."

These anthelmintic properties were known to such early writers as THEOPHRASTUS and PLINY. BRITTEN informs us that towards the close of the eighteenth century its medicinal value was known in both Germany and France—in the latter country by a Swiss apothecary named MATHIEU, whose treatment of tapeworm was so successful that his secret was purchased by FREDERICK THE GREAT for an annuity of two hundred thalers, and in France by a MADAME NUFFLER, the widow of a Swiss surgeon, who obtained from LOUIS XIV no less than eighteen thousand livres for her remedy which was first subjected to an investigation by savants of the period. In both of these cases it was found that the active principle of the remedy was supplied by the powdered rhizome of the male fern; and it was always employed in the form of powder until about 1825 when a chemist of Geneva suggested that substitution of the more convenient ethereal extract, in which form the drug is now always administered.

WISLEY TRIALS, 1956

DAHLIAS

One hundred and ninety-six stocks of dahlias were grown at Wisley in 1956. Ninety-one of these stocks were grown for the first time having been selected during 1955 for trial at Wisley by the Joint Dahlia Committee of The Royal Horticultural Society and The National Dahlia Society.

The trial was inspected by the Joint Dahlia Committee on August 17 and 31 and September 17, 1956, and on its recommendation The Royal Horticultural Society and The National Dahlia Society have made jointly, after trial at Wisley, the following awards to dahlias as varieties for garden decoration.

The number in brackets after the description of the variety was that under which it was grown in the trial.

Class III. Anemone-flowered

COMET. (Raised, introduced and sent by Messrs. N. J. van Oosten, Laan v. N. O. Indie 427a, Den Haag, Holland.) **A.M.** September 17, 1956. Described R.H.S. JOURNAL, **80**, p. 137 (**H.C.** 1954). [172]

Class VIA. Giant-flowered Decorative

NIGHT EDITOR. (Introduced and sent by G. F. Drayson, Esq., 23 Palmerston Road, Buckhurst Hill, Essex.) **A.M.** August 31, 1956. Plant 60 inches high, compact and erect, bearing flower stems 16 inches long. Flowers 10½ inches diameter, Tyrian Purple (H.C.C. 727). [77]

MARGARET BOWYER. (Raised, introduced and sent by Messrs. J. Stredwick & Son, Silverhill Park, St. Leonards-on-Sea, Sussex.) **H.C.** September 17, 1956. Plant 42 inches high, compact dwarf habit, bearing flower stems 12 inches long. Flowers 10½ inches diameter, outer florets pale creamy yellow, inner florets creamy yellow. [1]

Class VIB. Large-flowered Decorative

ELLA BOLSTER. (Raised, introduced and sent by Messrs. J. G. Ballego & Sons, Bloemhove Nurseries, Leiden, Holland.) **H.C.** August 17, 1956. Plant 48 inches high, compact and erect, bearing flower stems 12 inches long. Flowers 9 inches diameter, a clear bright yellow near Primrose Yellow (H.C.C. 601/1). [15]

LAVENGRO. (Raised, introduced and sent by A. T. Barnes, Esq., 13 Cardington Road, Bedford.) **H.C.** August 17, 1956. Plant 51 inches high, compact, erect, bearing flower stems 18 inches long. Flowers 9½ inches diameter, outer florets Cyclamen Purple (H.C.C. 30/2), inner florets Cyclamen Purple (H.C.C. 30/1), at extreme base yellow, tips of both outer and inner florets touched pale bronze. [19]

PETER RAMSEY. (Raised, introduced and sent by A. T. Barnes, Esq.) **H.C.** August 31, 1956. Plant 46 inches high, compact and erect, bearing flower stems 12 inches long. Flowers 9½ inches diameter, a very clear bright yellow deeper than Primrose Yellow (H.C.C. 601). [13]

Class VIC. Medium-flowered Decorative

BALLADE. (Raised, introduced and sent by Messrs. K. Maarse Dz., Jnr., Uiterweg 32, Aalsmeer, Holland.) **A.M.** August 17, 1956. Described R.H.S. JOURNAL, **81**, p. 190 (**H.C.** 1955). [29]

PRELUDIUM. (Raised, introduced and sent by Mr. L. A. Hoek, Clingendaal, Den Haag, Holland.) **H.C.** August 17, 1956. Plant 54 inches high, compact and erect, bearing flower stems 18 inches long. Flowers 7½ inches diameter, Fuchsine Pink (H.C.C. 627/1) flushed at base of florets with Azalea Pink (H.C.C. 618/2). [37]

Class VID. Small-flowered Decorative

DIANE EGBY. (Raised, introduced and sent by Messrs. Brown & Such Ltd., Maidenhead, Berkshire.) **A.M.** September 17, 1956. Described R.H.S. JOURNAL, **80,** p. 137 (**H.C.** 1954). [41]

MAUD WOODHOUSE. (Raised, introduced and sent by Messrs. Brown & Such Ltd.) **A.M.** August 31, 1956. Plant 54 inches high, compact and erect, bearing flower stems 12 inches long. Flowers 5¾ inches diameter, ground white overlaid on outer florets Mauve (H.C.C. 633/2) and on inner florets Mauve (H.C.C. 633). [60]

JEAN GOODSWEN. (Raised, introduced and sent by Messrs. Brown & Such Ltd.) **H.C.** August 31, 1956. Plant 54 inches tall, compact and erect, bearing flower stems 10½ inches long. Flowers 5 inches diameter, outer florets a deep velvety red near Cardinal Red (H.C.C. 822), inner florets a deeper red. [68]

Class VIIIB. Medium-flowered Pompon

COLPUR. (Raised, introduced and sent by Messrs. Brown & Such Ltd.) **H.C.** September 17, 1956. Plant 48 inches high, compact and erect, bearing flower stems 12 inches long. Flowers 3 inches diameter, outer florets Doge Purple (H.C.C. 732/2), inner florets Doge Purple (H.C.C. 732/2) overlaid a velvety crimson. [160]

Class IXB. Large-flowered Cactus

HAZEL LEE. (Raised, introduced and sent by Messrs. J. Stredwick & Son.) **H.C.** September 17, 1956. Plant 60 inches high, compact and erect, bearing flower stems 10 inches long. Flowers 8 inches diameter, Currant Red (H.C.C. 821/1). [97]

INDEPENDENCE. (Raised, introduced and sent by Messrs. K. Maarse Dz., Jnr.) **H.C.** August 17, 1956. Plant 54 inches high, compact and erect, bearing flower stems 19 inches long. Flowers 8 inches diameter, outer florets Chinese Yellow (H.C.C. 606), inner florets Chinese Yellow (H.C.C. 606) flushed Spanish Orange (H.C.C. 010/1). [87]

SALMON GLORY. (Raised, introduced and sent by Messrs. D. Bruidegom, Baarn, Holland.) **H.C.** August 31, 1956. Plant 60 inches high, compact and erect, bearing flower stems 20 inches long. Flowers 9½ inches diameter, Jasper Red (H.C.C. 018), base of florets Dresden Yellow (H.C.C. 64/1). [90]

Class IXC. Medium-flowered Cactus

GOLDEN AUTUMN. (Raised, introduced and sent by Messrs. D. Bruidegom.) **A.M.** August 18, 1956. Described R.H.S. JOURNAL, **81,** p. 191 (**H.C.** 1955). [112]

GOOD EARTH. (Raised, introduced and sent by Messrs. J. G. Ballego & Sons.) **A.M.** August 31, 1956. Described R.H.S. JOURNAL, **81,** p. 191 (**H.C.** 1955). [128]

BRIGHTEST PINK. (Raised, introduced and sent by Messrs. D. Bruidegom.) **H.C.** August 17, 1956. Plant 42 inches high, compact and erect,

bearing flower stems 20 inches long. Flowers 6¼ inches diameter, Fuchsine Pink (H.C.C. 627). [126]

DENTELLE DE VENISE. (Raised and introduced by Mr. E. Nagels, Belgium, and sent by Messrs. J. G. Ballego & Sons.) **H.C.** September 17, 1956. Plant 39 inches high, compact and erect, bearing flower stems 8½ inches long. Florets 6½ inches diameter, outer florets ivory white, inner florets creamy-white. [133]

LEMON SQUASH. (Raised, introduced and sent by Messrs. D. Bruidegom.) **H.C.** August 17, 1956. Plant 39 inches high, compact and erect, bearing flower stems 12 inches long. Flowers 7½ inches diameter, a clear shade of yellow near Sulphur Yellow (H.C.C. 1). [109]

MAARSE'S RED TORNADO. (Raised, introduced and sent by Messrs. K. Maarse Dz., Jnr.) **H.C.** August 17, 1956. Plant 48 inches high, compact and erect, bearing flower stems 18 inches long. Flowers 7¾ inches diameter, outer florets Orient Red (H.C.C. 819/1), inner florets Blood Red (H.C.C. 820). [120]

OOSTEN'S TANGO. (Raised, introduced and sent by Messrs. N. J. van Oosten.) **H.C.** August 17, 1956. Plant 45 inches high, compact and erect, bearing flower stems 14½ inches long. Flowers 7 inches diameter, Shrimp Red (H.C.C. 616/1), outer half of florets flushed Magenta (H.C.C. 27/3). [124]

YELLOW STAR. (Raised, introduced and sent by Messrs. de Ruyter Bros., Oegstgeest, Holland.) **H.C.** August 17, 1956. Plant 48 inches high, compact and erect, bearing flower stems 14 inches long. Flowers 7½ inches diameter, a clear bright yellow near Primrose Yellow (H.C.C. 601). [107]

Class IXD. Small-flowered Cactus

BOUNDSTONE FLAME. (Raised, introduced and sent by Mrs. Mary Case, Boundstone Nursery House, nr. Farnham, Surrey.) **H.C.** August 17, 1956. Plant 43 inches high, compact and erect, bearing flower stems 7½ inches long. Flowers 5½ inches diameter, Dutch Vermilion (H.C.C. 717/1). [143]

CHEERIO. (Sent by Mr. Stuart Ogg, The Grove Nursery, New Barn Lane, Swanley, Kent.) **H.C.** August 17, 1956. Plant 44 inches high, compact and erect, bearing flower stems 11 inches long. Flowers 4¾ inches diameter, Tyrian Purple (H.C.C. 721/1). [150]

Class XI. Dwarf Bedding

CHRISTINE CALDWELL. (Raised, introduced and sent by Messrs. A. Lister & Son Ltd., The Nurseries, Barone Road, Rothesay, Bute.) **H.C.** August 17, 1956. Plant 28 inches high, dwarf, compact and erect, foliage dark green tinged bronze, flower stems 10 inches long. Flowers 4 inches diameter, decorative, Tangerine Orange (H.C.C. 9/1) slightly flushed bronze. [185]

FOREVER AMBER. (Raised, introduced and sent by Messrs. A. Lister & Son Ltd.) **H.C.** August 17, 1956. Plant 25 inches high, dwarf bushy habit, bearing flower stems 5 inches long. Flowers 3½ inches diameter, decorative, ground yellow overlaid Saturn Red (H.C.C. between 13/2 and 13/1). [191]

SANDRA LISTER. (Raised, introduced and sent by Messrs. A. Lister & Son Ltd.) **H.C.** August 31, 1956. Plant 23 inches high, dwarf bushy habit, bearing flower stems 4 inches long. Flowers 4½ inches diameter, decorative, Marigold Orange (H.C.C. between 11/1 and 11). [184]

GLADIOLI

One hundred and fifty-five stocks of gladioli were grown at Wisley in the trial during 1956. Twelve corms of each stock were planted on April 18, 1956. The trial was inspected by a sub-committee of Floral Committee A on July 30, August 8, 16 and 22, 1956, and on its recommendation the Council of The Royal Horticultural Society has made the following awards to gladioli.

The number in brackets after the description of the variety was that under which it was grown in the trial.

Flowers white and of cream shades

ANTARCTIC. (Raised, introduced and sent by Messrs. Konynenburg & Mark, Ltd., Noordwyk, Holland.) **A.M.** August 22, 1956. Plant 54 inches tall; twenty-seven flowers per spike with ten open at once. Flowers 4 inches diameter, frilled edges, white, throat pale cream with touch of purple at the extreme base. [6]

RICHARD CROOKS. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **A.M.** August 8, 1956. Described R.H.S. JOURNAL, **78,** p. 32 (**H.C.** 1952). [19]

RUDYARD KIPLING. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **A.M.** August 16, 1956. Described R.H.S. JOURNAL, **81,** p. 144 (**H.C.** 1955). [81]

WHITE EXCELSIOR. (Raised, introduced and sent by Messrs. Blom & Padding, Beverwijk, Holland.) **A.M.** August 8, 1956. Described R.H.S. JOURNAL **78,** p. 33 (**H.C.** 1952). [7]

GREENLAND. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **H.C.** August 8, 1956. Plant 52 inches tall; twenty-three flowers per spike with eight open at once. Flowers 3½ inches diameter, pale creamy yellow, buds Primrose Yellow (H.C.C. 601/3) flushed green. [14]

Flowers of yellow shades

QUEEN'S PAGE. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **H.C.** August 8, 1956. Plant 60 inches tall; nineteen flowers per spike with five open at once. Flowers 3½ inches diameter, Mimosa Yellow (H.C.C. 602/3) with blotch at throat on lower petals of a deeper shade of purple than Tyrian Purple (H.C.C. 727). [145]

Flowers of pink shades

MELODIE. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **F.C.C.** August 16, 1956. Described R.H.S. JOURNAL, **79,** p. 99 (**A.M.** 1953). [149]

Flowers of orange shades

HOCHSOMMER. (Raised by Messrs. Wilhelm Pfitzer Ltd., Stuttgart, and introduced and sent by Messrs. Konynenburg & Mark Ltd.) **A.M.** August 16, 1956. Described R.H.S. JOURNAL, **77,** p. 184 (**H.C.** 1951). [43]

ORIENTAL SPLENDOUR. (Raised, introduced and sent by Messrs. P. Visser Cz., St. Pancras, Holland.) **H.C.** August 16, 1956. Plant 48 inches tall; sixteen flowers per spike with five open at once. Flowers 5½ inches diameter, Poppy Red (H.C.C. 16/1), tips of petals splashed Poppy Red (H.C.C. 16) with blotch at throat of Poppy Red (H.C.C. 16) streaked a darker red. [45]

Flowers of red shades

VOLCANO. (Raised, introduced and sent by Messrs. P. Visser Cz.) **F.C.C.** August 16, 1956. Described R.H.S. JOURNAL, **80,** p. 238 (**H.C.** 1954, **A.M.** 1955). [52]

NEW YORK. (Raised by Messrs. Salman, introduced and sent by Messrs. P. de Jager & Sons, Windsor House, 46 Victoria Street, London, S.W.1.) **A.M.** August 16, 1956. Described R.H.S. JOURNAL, **80,** p. 238 (**H.C.** 1954). [100]

PATACHON. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **A.M.** August 22, 1956. Plant 54 inches tall; seventeen flowers per spike with five open at once. Flowers 5 inches diameter, a rich velvety red near Chrysanthemum Crimson (H.C.C. 824/1) with small blotch at throat of creamy white. [116]

NEGROBOY. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **H.C.** August 16, 1956. Plant 63 inches tall; twenty-one flowers per spike with seven open at once. Flowers 5½ inches diameter, a shade of red near Chrysanthemum Crimson (H.C.C. 824) finely splashed a very dark red giving the appearance of black, small blotch at throat of white and rose-mauve stripe along upper petal. [104]

PUCCINI. (Raised by Messrs. Salman, introduced and sent by Messrs. P. de Jager & Sons.) **H.C.** August 8, 1956. Plant 48 inches tall; sixteen flowers per spike with seven open at once. Flowers 5 inches diameter, outer petals Rose Madder (H.C.C. 23/1), inner petals China Rose (H.C.C. 024/1). [98]

SALMAN'S MASTERPIECE. (Raised by Messrs. Salman, introduced and sent by Messrs. P. de Jager & Sons.) **H.C.** August 23, 1956. Plant 54 inches tall; eighteen flowers per spike with five open at once. Flowers 6 inches diameter, a clear bright red near Scarlet (H.C.C. 191/1) splashed on outer edges of petals Scarlet (H.C.C. 19). [70]

STRADIVARIUS. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **H.C.** August 23, 1956. Plant 60 inches tall; nineteen flowers per spike with five open at once. Flowers 5½ inches diameter, a vivid red near Signal Red (H.C.C. 719/1) with a very narrow stripe at throat of lower petal of creamy-white. [72]

Flowers of mauve and purple shades

DREAM GIRL. (Raised by Messrs. Salman, introduced and sent by Messrs. P. de Jager & Sons.) **A.M.** July 30, 1956. Described R.H.S. JOURNAL, **81,** p. 145 (**H.C.** 1955). [107]

INDEPENDENCY. (Raised, introduced and sent by Messrs. P. Visser Cz.) **H.C.** August 16, 1956. Plants 60 inches tall; sixteen flowers per spike with seven open at once. Flowers 5 inches diameter, Phlox Pink (H.C.C. 625/2) with slight splashing on margins of petals of Carmine (H.C.C. 21/1) and blotch at throat of Imperial Purple (H.C.C. 33). [112]

JOHN MASEFIELD. (Raised, introduced and sent by Messrs. Konynenburg & Mark Ltd.) **H.C.** August 8, 1956. Plant 60 inches tall; twenty-one flowers per spike with six open at once. Flowers 5 inches diameter, a bright rich shade of purple near Paeony Purple (H.C.C. 729). [114]

HEMEROCALLIS

The trial of hemerocallis was started in the spring 1954, has been added to each year and at the end of September 1956 comprised some sixty-eight varieties. Not all plants had made sufficient growth to allow of their being

judged in 1956. The sub-committee of the Floral Committee A inspected the trial on several dates in 1955 and 1956 and on its final recommendations for these two years made on July 30, 1956, the Council of The Royal Horticultural Society has made the following awards to hemerocallis as varieties for garden decoration.

The number in brackets after the description of the variety was that under which it was grown in the trial.

DOROTHY BLOXHAM. (Raised and sent by N. Leslie Cave, Esq., Summerlea, Sugden Road, Thames Ditton, Surrey.) **A.M.** July 30, 1956. Plant 48 inches high, vigorous, forming dense spreading tufts; foliage 36 inches long, 1 inch wide; flower stems 33 inches long, widely branched, up to twelve flowers per stem; flower 4¼ inches diameter, 2¾ inches long, edges of three tepals slightly waved, other three tepals smooth, Lemon Yellow (H.C.C. 4/1) [4]

MARION VAUGHN. (Raised by Kenneth D. Smith, Esq., Benedict Road, Damegan Hills, Staten Island 4, New York, U.S.A., and sent by H. J. Randall, Esq., C.B.E., Sandilands, Brooklyn Road, Woking, Surrey.) **A.M.** July 30, 1956. Plant 40 inches high, vigorous, forming fairly dense tufts; foliage 24 inches long, 1 inch wide; flower stems 36 inches long, well branched, up to thirty flowers per stem; flower 4½ inches diameter, 4½ inches long, a clear yellow near Aureolin (H.C.C. 3/1). [37]

AMBASSADOR. (Raised by Kenneth D. Smith, Esq., and sent by H. J. Randall, Esq., C.B.E.) **H.C.** July 30, 1956. Plant 36 inches high, vigorous, forming large dense tufts; foliage 28 inches long, 1 inch wide; flower stems 27 inches long, up to twenty-eight flowers per stem; flower 5 inches diameter, 3¾ inches long, at base of tepal Dresden Yellow (H.C.C. 64) remainder rich chestnut-bronze with crimson flush and streak along centre of tepal of buff-yellow. [35]

MISSION BELLS. (Raised by Mr. David F. Hall, 809 Central Avenue, Willmette, Illinois, U.S.A., and sent by H. J. Randall, Esq., C.B.E.) **H.C.** July 30, 1956. Plant 36 inches high, vigorous, forming fairly dense tufts; foliage 28 inches long, ⅞-inch wide; flower stems 30 inches long, up to twenty-two flowers per stem; flower 5½ inches diameter, 3½ inches long, Chrome Yellow (H.C.C. 605/1). [18]

VESPERS. (Raised by Mr. Thomas Nesmith, 106 Fairmount Street, Lewell, Massachusetts, U.S.A., and sent by H. J. Randall, Esq., C.B.E.) **H.C.** July 30, 1956. Plant 33 inches high, vigorous, forming dense tufts; foliage 30 inches long, 1¼ inches wide; flower stems 28 inches inches long, up to thirty flowers per stem; flower 5 inches diameter, 3¾ inches long, Empire Yellow (H.C.C. between 603/1 and 603). [41]

PAEONIES

Fifty-four varieties of paeonies were received in the winter of 1953–54 for trial at Wisley. Of these, twenty-seven were from American growers and had been imported specially for the trial; the remainder were received either from British or Dutch growers. These were planted on March 25, 1954. A further consignment of nineteen varieties were received in the winter of 1954–55, but as yet these plants have not become established sufficiently to be judged.

The trial was inspected by a sub-committee of the Floral Committee A

on May 30, June 7, 20 and 28, 1956, and on its recommendation the Council of The Royal Horticultural Society has made the following awards to paeonies as varieties for garden decoration.

The number in brackets after the description of the variety was that under which it was grown in the trial.

DANDY DAN. (Raised, introduced and sent by Mr. Edward Auten, Jnr., Princeville, Illinois, U.S.A.) **A.M.** June 7, 1956. Plant 33 inches tall, vigorous, erect and compact habit; flower stem 30 inches long, stout and rigid; flower 5 inches diameter, double, slightly scented; petals broad, edges slightly serrated, tightly packed, near Indian Lake (H.C.C. 826); eight flowers in 1956. [47]

JOHN HARVARD. (Raised, introduced and sent by Mr. Edward Auten, Jnr.) **A.M.** June 7, 1956. Plant 33 inches tall, vigorous, erect and compact habit; flower stem 30 inches long, stout and rigid; flower 5 inches diameter, semi-double, scented; petals broad, upper edges reflexing and slightly serrated, Indian Lake (H.C.C. 826); stamens yellow; eleven flowers in 1956. [52]

POSTILION. (Raised and introduced by the late Professor A. P. Saunders, and sent by Miss Sylvia Saunders, Clinton, New York, U.S.A.) **A.M.** June 7, 1956. Plant 36 inches tall, vigorous, erect and compact habit; flower stem 33 inches long, stout and rigid; flower 6 inches diameter, semi-double, scented; petals broad, slightly serrated, near Chrysanthemum Crimson (H.C.C. 824/3); stamens many, yellow; nine flowers in 1956. [41]

RED MONARCH. (Raised, introduced and sent by Mr. Edward Auten, Jnr.) **A.M.** May 30, 1956. Plant 30 inches tall, vigorous, erect and compact habit; flower stem 28 inches long, slender and rigid; flower 5 inches diameter, single, two rows of petals; petals with edges incurving and serrated, near Ruby Red (H.C.C. 827); stamens conspicuous, yellow; thirteen flowers in 1956. [38]

ROSEDALE. (Raised, introduced and sent by Mr. Edward Auten, Jnr.) **A.M.** May 30, 1956. Plant 30 inches high, vigorous, erect and very compact habit; flower stem 28 inches long, stout and very rigid; flower 4½ inches diameter, double, outer four rows of petals flat or slightly incurving, remainder of petals very tightly packed into the centre, scent slight; petals entire, a rich shade of red near Indian Lake (H.C.C. 826); stamens just visible, yellow; nine flowers in 1956. [37]

SARAH BERNHARDT. (Sent by Messrs. R. H. Bath, Ltd., The Floral Farms, Wisbech, Cambridgeshire.) **A.M.** June 28, 1956. Plant 40 inches tall, vigorous, erect and spreading habit; flower stem 37 inches long, slender and rigid; flower 5 inches diameter, double, scented; petals broad, edges serrated, Roseine Purple (H.C.C. 629/2) shading at edges of petals to very pale pink; fourteen flowers on nine stems in 1956. [26]

SILVER SWAN. (Raised and introduced by the late Professor A. P. Saunders and sent by Miss Sylvia Saunders.) **A.M.** May 30, 1956. Plant 30 inches tall, vigorous, erect and compact habit; flower stem 28 inches long, slender and rigid; flower 5 inches diameter, semi-double, scent faint; petals broad, incurving, slightly serrated on outer edge, white, stamens many, yellow with pink flush at base; twelve flowers in 1956. [18]

ROSE MARIE. (Raised, introduced and sent by Mr. Edward Auten, Jnr.) **H.C.** June 7, 1956. Plant 30 inches tall, vigorous, erect and compact habit; flower stem 28 inches long, stout and rigid; flower 4½ inches diameter,

double, scent faint; petals broad, edges serrated, Chrysanthemum Crimson (H.C.C. 824/1); seven flowers in 1956. [36]

THERESE. (Sent by Messrs. Kelway & Son Ltd., Langport, Somerset.) **H.C.** June 20, 1956. Plant 29 inches tall, vigorous, erect and compact habit; flower stem 26 inches long, stout and rigid; flower 5½ inches diameter, double, scent faint; petals broad, edges serrated and frilled, outer petals Mallow Purple (H.C.C. 630/2) gradually fading towards inner petals which are creamy white; eleven flowers on five stems in 1956. [15]

VOGUE. (Raised by the late Mr. Adrianus Hoogendoorn, Boskoop, Holland, and introduced and sent by Messrs. H. den Ouden & Son, The Old Farm Nurseries, Boskoop, Holland.) **H.C.** June 20, 1956. Plant 36 inches tall, vigorous, erect and compact habit; flower stem 34 inches long, stout and rigid; flower 6½ inches diameter, double, scent faint; petals broad and erect, a very soft rose-pink; twenty flowers on eight stems in 1956. [19]

PLANTS TO WHICH AWARDS HAVE BEEN MADE IN 1956

Acer platanoides 'Drummondii' A.M. September 19, 1956. A handsome variegated variety of Norway maple. The leaf-blades measure up to 6 inches long and 7 inches wide and have usually three large ovate-oblong, sparingly toothed lobes and two smaller basal ones. They are silvery-green with narrow white margin above, and bright green beneath. Exhibited by Messrs. W. C. Slocock, Ltd., Goldsworth Nurseries, Woking, Surrey.

Adenium coetaneum A.M. October 16, 1956. This tropical East African plant forms a more or less succulent shrub 2 feet or more in height, with stout greyish stems. The leaves are narrowly obovate, rounded at the apex, 1 to 4 inches long. The two- to six-flowered inflorescences are terminal on the branchlets. The flower has a conspicuous funnel-shaped corolla with five obovate, spreading lobes of Light Crimson (H.C.C. 22/1) edged with Rose Red (724), and the limb is about 2½ inches in diameter. A variety of the species is figured in the *Botanical Magazine*, n.s., t. 277 (1956). Exhibited by L. Maurice Mason, Esq., Talbot Manor, Fincham, King's Lynn (Fig. 14).

Akebia quinata A.M. October 16, 1956. A semi-evergreen or deciduous Japanese climber of great charm. It has neat, pale green, palmate leaves with five oblong leaflets, and in early spring it carries numerous pendent racemes of small, chocolate-purple flowers. These are occasionally followed by unexpectedly large fruits, each consisting of three or five fleshy, sausage-shaped segments up to 3½ inches long, at first pale green, finally light violet and then splitting longitudinally. Exhibited from the R.H.S. Gardens, Wisley.

Clethra alnifolia paniculata A.M. August 28, 1956. *Clethra alnifolia* is a delightful late-flowering shrub for a partially shaded place in lime-free soil, where it makes a shapely deciduous bush bearing

numerous racemes of fragrant, creamy-white flowers. The present variety differs from the ordinary form in having larger, paniculate inflorescences. Exhibited by Messrs. Sandhurst Nurseries, Sandhurst, Camberley, Surrey.

Cornus kousa chinensis A.M. October 16, 1956. This deciduous Japanese tree is most highly esteemed for its decorative effect in early summer, when its branches are wreathed with clusters of minute flowers surrounded by large, petal-like white bracts. The award is now given for its fleshy, almost globular, red fruits, which are about 1 inch across on erect stalks. Exhibited by the National Trust, Winkworth Arboretum, Godalming, Surrey.

Curtonus paniculatus A.M. August 28, 1956. A South African iridaceous plant often grown as *Antholyza paniculata*. The corm produces a fan of broad, erect, ribbed leaves and a stem 4 feet high branching near the tip into several crowded spikes of flowers. The curved, tubular perianth is 1½ inches long, coloured Capsicum Red (H.C.C. 715) outside and Persimmon Orange (710) inside. Exhibited by Messrs. Sunningdale Nurseries, Windlesham, Surrey.

Hydrangea involucrata hortensis A.M. October 2, 1956. *Hydrangea involucrata* is a Japanese shrub usually not over 14 feet in height, with ovate-oblong, slender-pointed leaves margined with bristle-like teeth. The variety *hortensis*, coming into flower in late summer, produces roundish panicles of sterile flowers all of which are double and more or less proliferous, at first whitish, later becoming pale pink. Exhibited from the R.H.S. Gardens, Wisley.

Lapeyrousia sandersonii A.M. August 28, 1956. An attractive South African iridaceous plant for the cold greenhouse. It has slender grey-green stems a foot or so in height bearing open panicles of small, six-lobed flowers of Methyl Violet (H.C.C. 39/2) with darker blotches on the three anterior segments. The tube is ½ inch long, the open limb ¾ inch across. Exhibited by Sir Frederick Stern, O.B.E., M.C., F.L.S., V.M.H., Highdown, Goring-by-Sea, Sussex.

Pyrola rotundifolia A.M. August 28, 1956. An attractive small stoloniferous perennial native to N. America and Europe (including Britain). It has long-stalked, persistent, roundish-ovate leaves and erect racemes of nodding white flowers each ½ inch across. An admirable plant for growing under peat-loving shrubs where it will not be disturbed. Exhibited by the Commissioners of Crown Lands, Windsor Great Park, Berks.

Rose 'Vanity' A.M. October 16, 1956. This delightful hybrid musk variety was raised by the late REV. J. H. PEMBERTON as the result of a cross between Rose 'Chateau de Clos Vougeot' and an unnamed seedling, and was introduced in 1920. It is a shrub rose of very vigorous habit making growth to a height of 8 feet and flowering continuously from June until severe frost. Its abundant semi-double sweetly scented flowers are about 3 inches across and very attractively spaced well above the foliage. The inner petals are Phlox Pink (H.C.C. 625/2) and the outer petals

somewhat deeper (625/1). Shown by Messrs. Sunningdale Nurseries, Windlesham, Surrey.

Rudbeckia triloba A.M. September 19, 1956. A biennial species from the Southern U.S.A. It forms a bushy plant up to 4 or 5 feet tall, with many ascending and branching stems. The lower leaves are 4 inches long, with 3 oblanceolate lobes; the upper shorter and simple. At the tip of each branchlet appears a flower-head nearly 2 inches across, with deep purplish-brown disc and eight or nine elliptical Indian Yellow (H.C.C. 6) rays. Exhibited by B. N. Starling, Esq., Garden Cottage, Rolls Park, Chigwell, Essex.

Ruellia graecizans A.M. August 28, 1956. An erect-growing, bushy plant with many slender branches bearing well-spaced, opposite, ovate-lanceolate glossy leaves and open panicles of tubular Geranium-Lake (H.C.C. 20) flowers an inch long. Suitable for the warm greenhouse. Exhibited by the Director, Royal Botanic Gardens, Kew.

Sorbus sargentiana F.C.C. October 2, 1956. This very ornamental tree received the **A.M.** on September 22, 1954. It is a Chinese species with massive pinnate leaves up to a foot in length, with from seven to eleven oblong-lanceolate conspicuously veined leaflets each 4 or 5 inches long. The small white flowers, carried in flat clusters, are followed by bunches of globose scarlet berries the size of small peas. Exhibited by the National Trust, Killerton, Broadclyst, Devon.

Zonal Pelargonium 'Viscount Weir' A.M. October 30, 1956. This very distinct and beautiful addition to the Zonal Pelargoniums was raised by Mr. E. Humphris. The individual Rose Pink (H.C.C. 427) flowers with veining of a deeper shade are borne in good bold trusses and measure from 2 to 2½ inches across. They are very freely produced and do not appear to lose their petals prematurely, which is an important point, especially when plants of this kind are used for bedding. The nicely zoned foliage is attractive too. Shown by the Hon. Mrs. Cartwright (gr. Mr. E. Humphris), Aynho Park, Banbury, Oxon.

ORCHID

Cycnoches chlorochilon 'Stonehurst' A.M. October 16, 1956. This very striking plant is a selected clone of the species. A native of Colombia, *Cycnoches chlorochilon* is sometimes known as the "Swan-necked orchid", because of the prominent thin upward-curved column, in this case over 1 inch long. The plant exhibited had a thick, fleshy, stem-like pseudo-bulb with a spike of three flowers and the leaves in fan-like formation at the top. The large flowers were 5 inches wide by 4½ inches deep, and emitted a strong scent reminiscent of hyacinths. The tepals are yellowish-green, except for the ventricose white labellum with a glossy green boat-like appendage at the base. Two of the narrow oblong tepals of the outer whorl are erect and parallel, whilst the third is pendent and reflexed at the apex. The lateral tepals of the inner whorl are similar in appearance, but are more horizontally situated. Exhibited by R. Strauss, Esq., Stonehurst, Sussex (Fig. 13).

BOOK NOTES

"Pierre Joseph Redouté. Roses 2." Ariel Press. 30s.

The publishers are to be congratulated on putting out a second volume of full-size rose portraits in colour from paintings in Thory's *Les Roses*, the famous three volumes sponsored by the Empress Joséphine in 1817. Twenty-four plates are reproduced by K. G. Lohse of Frankfurt-am-Main with very fair accuracy. The actual printing is excellent, but the colours are, on the whole, dull, some being very far from the original, and, of course, farther still from the actual roses. Once again the series has been selected to show the wide diversity of roses, and this it does most successfully. Particularly good are *Rosa centifolia bullata* (a really magnificent plate), *R. pimpinellifolia rubra* and *R. noisettiana*, and the Austrian Copper rose. It is unfortunate that so well known and brilliant a rose as *R. gallica versicolor* should appear in such sombre tinting; the same applies to *R. gallica* 'Maheka' and several others. On the whole the foliage in all the plates is of unnatural colouring. Nevertheless, the book gives us a most desirable collection of plates and the presentation is beyond cavil: high quality paper has been used, and besides the edition in limp covers there is a more sumptuous one in boards at 45s.

Eva Mannering has again contributed an introduction, of about 2,500 words, setting forth numerous interesting findings, both mythical and historical, about the rose; there is also an attractive list of the varieties portrayed, each with a descriptive extract from Thory in the original French, accompanied by a miniature pen-sketch of each plate. These sketches show great improvement on those in the first volume.

The book is presented, in common with the first volume in 1954, simply as a reproduction of Redouté's paintings and not necessarily from a scientific point of view. Those who study roses will be at a complete loss over many of the names. I therefore add the following list of certain roses in volumes 1 and 2; the first column gives the name under which Thory described the plate and the second its name in gardens today.

VOLUME 1

R. sulphurea	*R. hemisphaerica*
R. alba regalis	*R. 'Maiden's Blush'*
R. muscosa multiplex	*R. centifolia muscosa*
R. turbinata	*R. francofurtana*
R. pumila ('Rose d'Amour')	*R. gallica:* a wild form
R. indica fragrans	*R. odorata*, presumably the double-blush form first introduced in 1810
R. Eglanteria luteola	*R. spinosissima luteola*
R. centifolia burgundica	This is a much larger rose than the miniature variety grown as *R. centifolia parvifolia*. The error was noted in Willmott's *The Genus Rosa* and in the present writer's *The Old Shrub Roses* and elsewhere.
R. inermis	A form of *R. lheritierana*
R. damascena aurora	*R. alba* 'Celeste'

VOLUME 2

R. damascena variegata	*R. damascena versicolor*
R. pimpinelli folia rubra (flore multiplici)	A double pink form of *R. spinosissima*
R. Eglanteria	*R. foetida* (*R. lutea*)
R. gallica 'Maheka'	*R. gallica violacea*
R. muscosa alba	*R. centifolia muscosa alba* ('Shailer's White Moss')
R. reclinata	A form of *R. lheritierana*
R. Redutea glauca	In the King Penguin *A Book of Roses*, with text by J. Ramsbottom, this plate is given as *R. nitida*, but I cannot reconcile the two.
R. indica vulgaris	Our old friend the 'Old Blush' or Monthly China rose. A very liberal portrait.
R. berberifolia	*Hultheimia persica* (*Rosa persica*)

VOLUME 2—*continued*

R. Eglanteria punicea . . .	*R. foetida bicolor* (*R. lutea punicea*)
R. induca pumila	A single form of *R. chinensis minima*
R. centifolia mutabilis . . .	*R. centifolia* 'Unique Blanche'
R. rapa	*R. virginiana plena*

At least thirteen roses out of each volume are still in cultivation.

GRAHAM S. THOMAS

"Tomorrow's Landscape." By Sylvia Crowe. Demy 8vo. 207 pp. Illus. (Architectural Press.) 21s.

The critical audience who heard Miss Sylvia Crowe present the story of the landscape at Harlow New Town to the conference of the International Federation of Landscape Architects at Zurich in the summer, came away with the feeling that England was well ahead of all other countries in this field of comprehensive planning. It was a source of pride to hear addresses afterwards, particularly from distinguished German authorities, correctly theorizing as to what should be done, and to know in fact that we had done it. Miss Crowe is a practising landscape architect who can present the accomplishments of this country with the same clarity with which she presents in this book the unresolved issues and problems that are already upon us.

Here is a broad survey of the changing countryside, with rational and not preposterous proposals for guiding its inevitable development along lines that will always keep the country seemly and sometimes make it more beautiful than it is today. Her basic reasoning is summarized in the introduction: "In the past change has come so gradually that nature has adjusted herself without conscious effort on the part of man. But now man's pace has outstripped nature's and he must accept responsibility for hastening the evolution of the landscape as he has hastened so much else." My only serious criticism of this remarkable book lies in the title, for the problems that are raised are those of today, and tomorrow is already presenting its own. Tomorrow we shall have to contend with the final struggle of the car and the pedestrian, with a multitude of titanic shapes against the sky unknown as yet to aesthetic man, and with goodness knows what else. Miss Crowe bases her philosophy on the absolute values of nature, to whose standards we must constantly refer and from which in fact we must never depart. These standards are static and present no problem to an author in regard to access to information; Miss Crowe must start another volume and in order that all of us may have the immediate benefit, should write and publish in the shortest possible time.

G. A. JELLICOE

"Unusual Vegetables." By Erma Harvey James. 143 pp. No. 12 in the Countryman Library. Cr. 8vo. 143 pp. Illus. (Rupert Hart-Davis Ltd.) 9s. 6d.

This book is divided into three sections: Unusual Vegetables; Herbs; and Wild Vegetables, Fruit and Herbs.

If one appreciates a vegetable dish with a difference on the table, it is without doubt most helpful and comprehensive. It deals with varieties, their cultivation and with many excellent recipes which, in these days, are ever welcome from the normal English cuisine.

However, the reader of this book should be reminded that 'Blue Lake', which is described as another runner bean is not a runner bean as understood by the English gardener, but is actually a form of the climbing stringless beans as grown on the Continent. A similar latitude should be allowed for some of the other descriptions of these unusual vegetables as it is not an easy matter to give a true description. I cannot understand why endive should be recommended only for mid-June sowing, as this does exceptionally well when sown in April and in successional sowings until the first week of August, thus giving a much longer season of use.

The section on herbs contains a wealth of information which will be of the utmost value to both the grower and in the kitchen.

Those who enjoy country walks and are sufficiently experienced to identify wild vegetables, fruits and herbs, will discover in this book their many uses.

About a year ago, unusual vegetables were dealt with by the Society in the form of a most comprehensive exhibit in the Hall and a lecture given to Fellows of the Society. This book is an excellent follow-up and can be recommended to all interested.

F. G. POTTER

"Annuals from Seed." By Roy Genders. 111 pp. Illus. (W. G. Foyle Ltd.) 3*s*.

There is room for a good short practical book on Annuals for the average garden, but somehow Mr. Genders does not seem to hit the mark here. A good deal of information is contained in this book one way or another but the presentation lacks clarity and method, and at the end of it, the reader may be left with a feeling of uncertainty.

The book is divided under various headings such as: annuals—their value in the garden; annuals—their treatment; methods of sowing the seed; annuals for bedding; annuals for cutting; and so on.

A. P. BALFOUR

"Bedding Plants." By Roy Genders. 192 pp. Illus. (John Giffard Ltd.) 12*s*. 6*d*.

After some useful preliminary remarks on the history of bedding in English gardens and the general development of the decorative use of plants in gardens, Mr. Genders treats the whole subject in detail. He starts with the preparation of the soil, choice of sites and propagation of plants under various headings, Annuals, Perennial Plants, and information on their decorative use in separate or composite plantings rather than in a mixed herbaceous border; the Geranium; the zonal geranium and the wide range of varieties available, ornamental geraniums with their great diversity of foliage, and geraniums with scented foliage. Carpeting plants are also described, and plants suitable for using in this way under spring bulbs and similar associations in summer. There is also a chapter on spring bulbs and useful summer-flowering bulbs such as alliums, anemones, tigridias, freesias, gladioli and ranunculus. A further topical chapter is on foliage plants useful for decorative bedding. There is also a chapter on roses and on the dianthus family. Lastly, the planting of window boxes, tubs, vases and hanging baskets.

The book is an ambitious one and should prove useful to many gardeners. It is a pity that more care had not been taken with the individual descriptions of plants. These are altogether too sketchy and in some cases not accurate. For example, under herbaceous perennials suitable for bedding, *Kniphofia galpinii* is described as having lemon-yellow flowers and no mention is made of its valuable late-flowering habit; *Cynoglossum nervosum* is described as having "intense sky-blue flowers". Under annuals his description of godetias (page 43) is, in my opinion, inadequate and even misleading. Again, more care should have been taken in these detailed descriptions. However, there are many good points in the book which will repay careful study.

The book is well illustrated and has a useful index.

A. P. BALFOUR

"Cacti for Decoration." By Vera Higgins, M.A., V.M.H. Sm. 8vo. 68 pp. 1 coloured and 23 monochrome illustrations. (Blandford Press, London, 1956.) 6*s*.

"An Introduction to Cactus and other Succulent Plants." By H. M. Roan and S. H. Scott. Sm. 8vo. wrappers. 42 pp. 38 photographic illustrations. (National Cactus and Succulent Society, 15 Tithby Drive, Sherwood, Nottingham, 1956.) 1*s*. 9*d*.

"Cactus Guide." By Ladislaus Cutak. 8vo. vii + 144 pp. Line drawings. (D. Van Nostrand Co. Inc., Macmillan and Co.,1956.) 30*s*.

Mrs. Higgins' latest book is both timely and welcome. It deals with the use of succulents (in spite of the misleading title) for bowl gardens and general decoration of the home, explaining in detail what plants to choose, how to plant them and how to maintain them in good condition. Thus it fills a real gap in the literature on succulents. The presentation is admirable throughout and altogether this can be heartily recommended.

Also good value for money is the National Cactus and Succulent Society's brochure, which is aimed at the veriest beginner who receives his first plant and wants simple directions on how to keep it alive and make the most of a new hobby.

Ladislaus Cutak has been growing succulents for twenty-eight years at the Missouri Botanical Garden, where he has charge of an outstanding collection. His first book presents, with glowing national pride, "the most bizarre plants that God created". The

style is clear and readable, enlivened with informal touches ("Don't overlook the Parodias!") and personal anecdotes on the species he has seen in their native habitats. One would have wished for less detailed treatment of the large-growing Cerei and Epiphyllanae, many of them rare and barren in collections, and much more on the real gems of indoor cacti, the Rebutias, Lobivias, etc., which are dismissed in a single paragraph. This emphasis on North rather than South American cacti is general and leads to an unbalanced picture of the family.

There is a good section on pests, and another cataloguing the English-speaking cactus societies: a glossary would also have been a help to beginners. The account of desertariums and button gardens will be unfamiliar and may suggest new decorative possibilities for succulents in the home. The publishers owe us an erratum slip for a typographical mix-up on p. 61; otherwise the presentation is good. British readers will be less perturbed by the picture of the author eating a barrel cactus (which caused a storm of protest from cactus-lovers in the U.S.A.) than by the price, which for a book with line drawings but no plates is high and sure to go against wide sales in this country at least.

G. D. ROWLEY

"Strawberries." Min. of Agric. Bulletin. 44 pp. Illus. (H.M.S.O.) 2*s.* 6*d.*

Bulletin No. 95, on Strawberries, was written in 1937, revised seven years later and now has been largely re-written and brought up to date.

Omitting the history of strawberries, the first chapter goes straight to the vital considerations of climate, site and soil, giving valuable information for the intending grower, particularly with regard to frost.

The most interesting account of the modern methods of propagation and production of healthy stocks makes it abundantly clear that, thanks to research work and the Advisory Services, there is a carefully planned scheme for the introduction and preservation of virus-free clonal stocks of the most popular varieties.

Routine operations in connection with fruiting plantations are fully described, and there is a fund of information on the control of pests and diseases. Most opportune attention has been given to the growing of early strawberries, particularly under continuous cloches, and the detailed information will stimulate production of this increasingly popular crop. In view of the remarkable difference in the cropping power of runners planted in August versus October, it would be valuable to see figures indicating the weight of fruit per plant to be expected of recommended varieties in the first season under cloches.

Further evidence of recent research is apparent in the most informative description of flower-bud formation under the influence of regulated periods of light, and the recommendations will, I am sure, inspire many to produce strawberries for Christmas. To those interested in strawberry culture, this new edition will be of real value.

BEATRIX HAVERGAL

"Amateur Wine Making." By S. M. Tritton. 239 pp. Illus. (Faber and Faber.) 21*s.*

The revived interest in wine making since the end of the war and the experiments in viticulture with newly introduced vine varieties, have resulted in the publication of a number of how-to-do-it books. Mrs. Tritton's is the latest. In wine making there are two schools: the traditionalists who, perceiving that wine has been made successfully for about five millennia without the aid of science, follow old and simple rules. And the scientific, who work from the principles discovered within the past hundred years. Mrs. Tritton belongs emphatically to the latter school. Her book is a very complete guide to the making of wines, beers, ciders and perries and mead, but it is a guide which will only be followed by those prepared to adopt laboratory standards of work. The author has the faults, as well as the virtues of her school: she advocates the use of chalk for reducing acidity ("You rogue, there's lime in this sack!"), a practice some think pernicious. Nor is her insistence that selected yeasts must be used—after sterilization of the *must*—likely to be approved by those who, having tried them, have gone back to simpler, more natural and less troublesome methods, as even some of the great *châteaux* wineries have done. The fact is, the whole process is simpler than this book suggests, and the failures due to rather slap-dash old ways much rarer.

In the section on vine growing it is a pity that little use has been made of the published results obtained by R. B. Brock at the Oxted Viticultural Research Station.

It is, for example not true that any immunity whatsoever is given to *Vinifera* vine against mildew by grafting, nor would anyone with the slightest knowledge of phytology expect it to be. Most hybrids of American × *vinifera* varieties are *not* so lime-tolerant as certain *Viniferas*. Mrs. Tritton tells us that hybrids are desirable for English plantations because they are very early: the fact is that a few hybrids are desirable in spite of the fact that they are *not* nearly so early as the *précoce Viniferas*. In her list of recommended varieties, as Brock's results should have shown her, neither 'Riesling', nor 'Sylvaner', nor 'Chassellas' are suitable for English planting without cloche protection. Among other *Viniferas*, 'Gamay' is recommended: there are about forty Gamays, none suitable; the only one bearing that great name, 'Gamay Hâtif des Vosges', is not a Gamay at all. The list also includes two "Burgundy" vines; presumably these are Pinots (or Pineaux, as it is sometimes written). Neither will ripen here excepting on very advantageous sites.

E. HYAMS

"Radioisotopes in Biology and Agriculture." By C. L. Comar. (McGraw-Hill Book Co.) $9.00 (67*s*. 6*d*.).

Radio-active isotopes, that is, atoms of the same elements but of different atomic weights and emitting radiation, have proved of the utmost value in research work in many different fields. Possessed of exactly the same chemical properties as the normal element, isotopes can be introduced into the molecules of a chemical substance, thus "labelling" the molecules and making it possible to trace their course through a plant or an animal, or through a series of chemical transformations, and thus to gain a new insight into biological processes. Radio-active isotopes are most usually prepared by bombardment of the normal element, alone or in chemical combination, with neutron irradiation in an atomic pile and they constitute one of the most important products of the new science of nuclear fission.

This book is a highly technical and authoritative account of the uses to which these new weapons of research may be put in the fields of plant and animal biology. It is a complete treatise on present knowledge of this aspect and will prove of immense value to research workers. Much of it will be unintelligible to the layman, but even the non-scientist will gain from it some view of the new and exciting vistas in knowledge which have been opened up by these instruments of research.

R. H. STOUGHTON

"Ground Cover Plants." By Donald Wyman. 174 pp. Illus. (The Macmillan Co., New York and London.) 33*s*.

All horticulturists would agree that one of the most frequent questions they are asked is, "What can I cover this bit of ground with so as to save labour?" Dr. Donald Wyman has answered this question authoritatively and comprehensively in the first book to be devoted entirely to "ground cover plants". It is based on his long experience at the Arnold Arboretum and is primarily written for North American gardeners, but it will be equally useful for those in Britain and other temperate countries. After sections on planting, maintenance, and propagation, Dr. Wyman gives selections of plants suitable for special conditions (e.g. shade, dry soils, etc.), followed by an alphabetical list, with full particulars of each species. There are sixteen pages of excellent photographs, and end-papers bearing a map of North America, showing the States superimposed on climatic zones—a feature which will have a usefulness beyond the purpose of this particular volume.

Many of the species dealt with will be unfamiliar to British gardeners and will open their eyes to new possibilities for ground cover plants. For example, *Pachistima canbyi* (a relation of *Euonymus*) would be well worth trying as a cover that thrives in full sun or in shade and is recommended by Dr. Wyman for planting as a narrow strip in front of rhododendrons.

Dr. Wyman is to be congratulated on producing a badly needed book that should be welcomed by everyone concerned with cutting down the time and labour involved in the mowing of grass lawns.

J. S. L. GILMOUR

"Corn on the Cob." By John Usborne. 104 pp. Illus. (Rupert Hart-Davis, 1956.) 9*s*. 6*d*. net.

This is a rather rambling personal account of how the author explored the use of American varieties of sweetcorn, field maize and popcorn at his farm near Guildford.

He describes at length the problems of growing these crops in England, the difficulties he encountered from pests such as wireworms and frit flies, and the practical means he took to overcome them.

Mr. Usborne is an undaunted individualist in exploring how to overcome practical difficulties. Yet one wonders if he could not have saved himself much money and trouble if, for instance, he were to have studied the available information on growing sweet corn and maize in England. As it is, this is an entertaining little book to read by the fireside in winter-time, for its enthusiasm is likely to make the reader try growing sweetcorn the following summer. But for brief instructions on how to do this, and as to what varieties to grow, he will have to turn to the Supplement of the *Dictionary of Gardening*.

G. HASKELL

"Men and Gardens." By Nan Fairbrother. 239 pp. Illus. (The Hogarth Press.) 21*s*.

As this JOURNAL is intended for gardeners it has to be stated at once that this elegant and learned piece of writing is not, in the ordinary sense, really a gardening book at all. Rather it is a study in gardens in relation to the men who made them, and later when that has become a self-conscious attribute, of how it has been reflected in the gardens of successive periods.

I would emphasize the strong literary character and approach of the book. It is constructed in a loose historical sequence and is concerned mainly with the centuries before 1800. The author has read widely and deeply of the great garden-writers and has amassed a vast quantity of material. This she has arranged with the art of an accomplished writer, but there would seem to be few arts for which she has no feeling and she writes of them with sympathetic criticism where they impinge or throw light on her subject. The book does not lack whimsicality also and there are digressions on such unusual matters as seventeenth-century books on hawking and X-ray photographs of plants.

So tight a weave of fact and criticism makes this a very close-textured book. Nevertheless, its deep learning and good writing should commend it to many readers if not necessarily all of them gardeners.

MORTON

"Orchids and their Cultivation." By David Sander. Demy 8vo. 135 pp. Illus. (Blandford Press.) 17*s*. 6*d*.

The latest edition of this very useful book is wider in scope than the previous one, the most noteworthy addition perhaps being a chapter upon the collection and importation of orchids from the wild. Too seldom one finds that authors of books which primarily deal with cultivation practices relate these to conditions in the wild, but David Sander correlates his cultural details with information about the native habitat. At the same time he rightly warns against carrying the idea too far, because of the impossibility of reproducing exactly the conditions of light and humidity of the tropical and sub-tropical forest. Few gardening books dealing with a single group of plants, cover such a wide field, and with his very wide and long experience David Sander brings the orchid cultivator in the tropics into the picture as well. For the connoisseur there is a chart at the back putting the genera in their taxonomic position within the large family of the Orchidaceae, but the definition of a few words in the glossary preceding it might cause a little concern to the purist. For the novice David Sander puts matters as clearly and concisely as possible and makes a very welcome appeal to common sense. Finally, for those who just idly flick over the pages there are beautiful coloured photographs to arrest their attention.

W. R. SYKES

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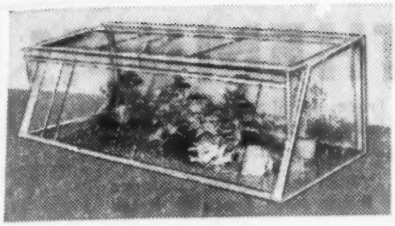

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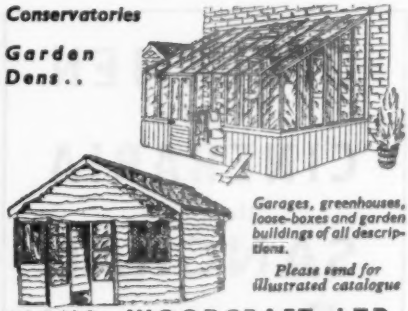

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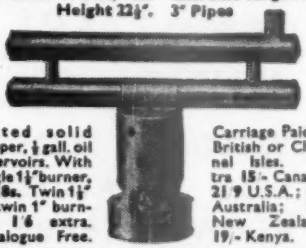

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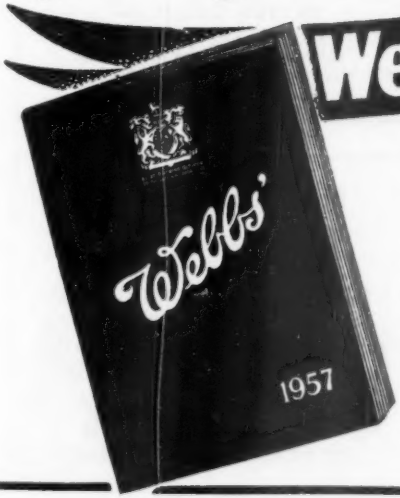

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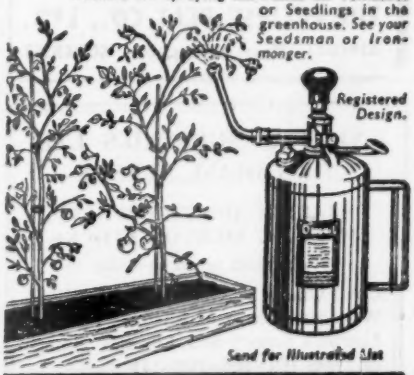

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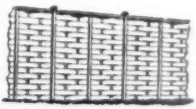

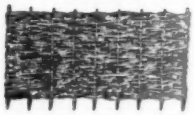

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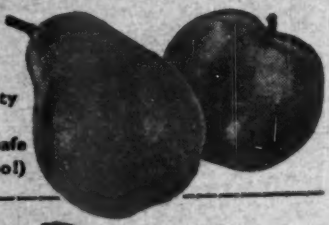

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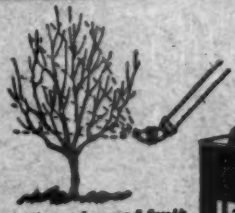

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